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Complex Effects of Language Brokering among Chinese Immigrant Families: Integrating Variable-Centered and Person-Centered Approaches

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Complex Effects of Language Brokering among Chinese Immigrant Families: Integrating Variable-Centered and Person-Centered Approaches

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Dedication

This dissertation is dedicated to my husband, Dunyu Liu, my parents Meiyu Li and Longche Shen, and my parents in law, Guibin Dun, and Gang Liu.

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Complex Effects of Language Brokering among Chinese Immigrant Families: Integrating Variable-Centered and Person-Centered Approaches

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Children and adolescents in linguistic minority families, such as Chinese American families, often serve as language brokers; that is, they are the translators or interpreters for their parents who have limited English proficiency. Despite a growing number of scholarly investigations on language brokering, evidence regarding its developmental outcomes remains mixed. To disentangle the complex effects of language brokering, two separate but complementary studies were conducted. Specifically, Study 1 took a variable-centered approach and examined the mechanisms of the complex effects of language brokering frequency, while Study 2 took a person-centered approach and explored subgroups of language brokers based on language brokering feelings and identified predictors and outcomes of subgroup memberships (including a known subgroup of non-brokers). Participants were Chinese American adolescents (N = 252 for Study 1; N = 394 for Study 2 including non-brokers) residing in Northern California who were surveyed when they were in high school (T1; Mage = 17.0; SD = 0.73; 61% female)

and again four years later (T2). In Study 1, it was found that frequent language brokering for mothers was associated with brokering-related maternal dependence, which was in turn simultaneously associated with both brokering-related mother-child mutual regard and mother-child role reversal across language brokers' adolescence and emerging adulthood. In addition, the positive impact of frequent language brokering diminished when language brokers did not perceive warmth from their mothers' parenting behaviors. In Study 2, two distinct subgroups of adolescent language brokers were identified using latent profile analyses based on language brokering feelings: efficacious brokers and burdened brokers. A key predictor that distinguished the two language broker groups was bilingual proficiency, such that those who were proficient in both English and Chinese were more likely to be efficacious brokers. Moreover, compared to non-brokers, efficacious brokers were not significantly affected by or even benefitted from translating, while burdened brokers' parent-child relationships and psychosocial well-being were at risk due to brokering. Finally, the majority of adolescents remained in the same subgroups over time, and those who were burdened at both times and those who later became burdened showed poorer adjustment in emerging adulthood than other subgroups.

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Chapter 1: Introduction

Overview of the Problem

Despite the fact that English is the official language used in nearly all states in the United States (Schildkraut, 2001), more than 20% of the U.S. population aged 5-years and older in the United States speaks a language other than English at home (Ryan, 2013). Individuals in these households often have limited English proficiency, especially those whose heritage languages are drastically different from English. For example, among Chinese-speaking population, which is the largest among Asian language speakers and has increased by nearly 350 percent since 1980 to approximately three million by 2010, only less than 50 percent speak English "very well" (Ryan, 2013). As children and adolescents in linguistic minority families, such as Chinese American families, learn to use the English language much faster than adults, they often need to serve as the translators or interpreters for their parents or other family members who have limited English proficiency. This phenomenon is referred to as *language brokering* (McQuillan & Tse, 1995).

As young language brokers assume this extra responsibility compared to their non-brokering peers, they are faced with additional challenges to the normative developmental challenges shared by all children and adolescents. Since the mid-90s, scholarly investigations on adolescents' language brokering experiences and the developmental outcomes have been growing. Arguments for and against language brokering have been proposed, and evidence remains mixed (Kam & Lazarevic, 2014a;

Morales & Hanson, 2005). For this reason, this dissertation aims to reconcile the inconsistencies in the literature by integrating both variable-centered and person-centered approaches and recognizing the complex consequences of language brokering as well as within-group variability of language brokers.

Chapter 2: Literature Review

THEORETICAL FRAMEWORK

According to role theory (Ashforth, 2001), family members are expected to establish a hierarchical structure to a certain degree, wherein the parent has more authority and power than the child. Thus, an opposite situation in which the child cares for a helpless parent is considered to be unhealthy role reversal. In contrast, the interdependence versus independence script perspective (Dorner, Orellana, & Jiménez, 2008) posits that child development should be understood within the developmental script of the family's cultural background. If a family comes from a culture that emphasizes interdependence over independence, then the child helping out parents in interactions with the outside world is considered adaptive, as it enhances parent-child interdependence.

While these two perspectives are seemingly incompatible, it is plausible that language brokering, or more specifically brokering frequency, has complex, mixed effects, including both positive and negative aspects at the same time. Alternatively, it may also be that these theories apply to different subgroups; that is, there may be some who benefit from brokering and some whose well-being is harmed because of brokering. Therefore, this dissertation aims to use two separate studies, one taking a variable-centered approach and the other taking a person-centered approach, to examine the complex effects of language brokering in Chinese American families.

Study 1 investigates the consequences of frequent language brokering for parent-child relationships from a variable-centered approach. Specifically, brokering-related parent-child role reversal and mutual regard are examined as simultaneous outcomes of language brokering frequency, focusing on brokering-related parental dependence as a potential mechanism of such effects and parenting behaviors as conditions that influence the mechanism. Study 2, on the other hand, investigates language brokering from a person-centered approach. Specifically, potential subgroups of language brokers are explored based on various psychological feelings of brokering, and the developmental antecedents and consequences of subgroup memberships are explored across different subgroups of language brokers and those who do not serve as language brokers. As mothers are the main recipients of young people's language brokering support for many racial/ethnic groups including Chinese Americans (Chao, 2006), this dissertation only focuses on mother-adolescent dyads.

In the sections below, extant research will be reviewed on language brokering with both variable-centered and person-centered approaches. It is worth mentioning that the majority of past studies on child language brokering in the United States were conducted either with Latino youth (Kam, 2011; Martinez, McClure, & Eddy, 2009; Weisskirch, 2007) or racially/ethnically diverse youth samples (Chao, 2006; Guan, Greenfield, & Orellana, 2014; Weisskirch & Alva, 2002; Weisskirch et al., 2011). Additionally, a small set of studies were conducted outside of the United States (Hua & Costigan, 2012; Oznobishin & Kurman, 2009; Titzmann, 2012). Therefore, the research

reviewed will be based on a broad literature that encompasses multiple racial/ethnic groups in multiple national contexts, rather than focusing exclusively on research conducted with Chinese American families.

LANGUAGE BROKERING WITH A VARIABLE-CENTERED APPROACH

Language Brokering Frequency and Parent-Child Relationships

One focal point of language brokering literature is how language brokering frequency influences parent-child relationships within the family. The majority of existing research has been variable-centered, or in other words, has focused on the association between language brokering frequency and parent-child relationships. However, results have been contradictory, with both positive and negative consequences of language brokering frequency. The first group of researchers argue that frequent language brokering harms the normative parent-child dynamic within a family and results in parent-child role reversal (Umaña-Taylor, 2003). This point of view was supported by empirical studies. For example, Latino adolescents' frequent language brokering regarding home management was found to negatively impact parental decision-making authority (Roche, Lambert, Ghazarian, & Little, 2015). Similarly, frequent language brokering was found to be associated with child dominance among adolescents from immigrant Former Soviet Union families residing in other countries, such as Israel and Germany (Oznobishin & Kurman, 2009; Titzmann, 2012).

In contrast, a second group of researchers argue that frequent language brokering is actually beneficial in terms of parent-child relationships, because it helps develop a

stronger parent-child bond and parent-child mutual regard in immigrant families (DeMent, Buriel, & Villanueva, 2005). For example, more frequent language brokering was found to be related to increased respect for mothers among Chinese American and Korean American adolescents (Chao, 2006; Shen, Kim, Wang, & Chao, 2014). Moreover, language brokering frequency was found to be positively associated with racially/ethnically diverse emerging adults' prosocial interpersonal reactivity, including transcultural perspective taking and empathic concern (Guan, et al., 2014). Qualitative evidence also suggests that language brokering among Latino youth is a relational activity in which adolescents and parents work together to solve the problem, and as a result, not only do adolescents develop a helping orientation, but they also feel that their help is valued and appreciated by their parents (Dorner, et al., 2008).

In summary, evidence remains mixed, with both positive and negative influences of language brokering frequency on parent-child relationships. To date, however, no study seems to have considered the possibility that parent-child relationships are multifaceted, and that frequent language brokering has a mixed effect on parent-child relationships. That is, language brokering frequency may positively influence some aspects of parent-child relationships while negatively influencing other aspects. This study thus focuses on two aspects of brokering-related parent-child relationships, parent-child role reversal and parent-child mutual regard, as simultaneous outcomes of frequent language brokering. By directly assessing both positive and negative aspects of brokering-related parent-child relationships as outcomes of frequent language brokering,

this study is able to gauge young language brokers' evaluations of parent-child relationships in the specific context of their language brokering assistance for their mothers.

Parental Dependence as a Mediator

One potential mechanism through which frequent language brokering may lead to both brokering-related parent-child role reversal and mutual regard is brokering-related parental dependence. It is plausible that the more children help their parents for translation and interpretation, the more likely they are to perceive their parents to be dependent on them. Additionally, parental dependence could be associated with both parent-child role reversal and mutual regard. On the one hand, parent-child role reversal has been construed as a pathological outcome of parental dependence (Earley & Cushway, 2002). On the other hand, parental dependence on children may also reflect the flexibility of the family systems responding to parental incapacity, as well as children's extraordinary ability and agency in assisting their parents and contributing to the families (Chee, Goh, & Kuczynski, 2014; Woolgar & Murray, 2010).

In this dissertation, therefore, I propose that the concept of parental dependence may not be an entirely positive or negative construct, but instead reflects ambivalence of the parent-child tie: on the one hand, adolescence and emerging adulthood are marked by increasing needs of autonomy (Collins & Steinberg, 2006), while on the other hand, interdependence and connectedness among family members are valued in Chinese culture (Fuligni, 2001; Triandis, 1995). Hence, it is the first hypothesis of this dissertation that

parental dependence on the child language broker may serve as a potential mediator in the effects of language brokering frequency on brokering-related parent-child role reversal and mutual regard. That is, frequent language brokering may be related to parental dependence, which in turn, may be related to both parent-child role reversal and mutual regard in the context of language brokering (see Figure 1 for a conceptual model).

Parenting Practices as Moderators

As reviewed above, brokering-related parental dependence could have simultaneous effects on both brokering-related role reversal and brokering-related mutual regard. The circumstances under which brokering-related parental dependence may have more positive or more negative implications may depend on the larger family contexts. That is, the extent to which parental dependence is associated with parent-child role reversal versus mutual regard may depend on whether or not support is reciprocated by the parents (Woolgar & Murray, 2010). For example, in family contexts where children generally receive positive caregiving or parenting practices from the parents, brokering-related parental dependence may not be detrimental and may even be adaptive for youth, as it indicates flexibility of the family and youth's early competence (Barnett & Parker, 1998). On the other hand, absence of positive caregiving or even negative parenting from the parents may indicate that children's support for their parents is not reciprocated, and children in such family contexts may be vulnerable. As the most widely studied parenting practices are, broadly speaking, parental control and warmth (Maccoby & Martin, 1983), for this dissertation, I focus on three distinct parenting practices: parental monitoring and

psychological control to capture both positive and negative dimensions of parental control, and parental warmth (see Figure 2 for a conceptual model).

First, parental monitoring is hypothesized to be a potential moderator of the dependency–relationship association for the following reason. Chao and Tseng (2002) emphasized the importance of hierarchy within the family, where parents expect greater authority and respect, and children rely on the parents' advice and guidance. Hua and Costigan (2012) further argued that when this kind of family hierarchy is disrupted because of language brokering, adolescents may regard their parents as vulnerable and powerless, which is an unhealthy parent-child dynamic. However, earlier qualitative work has also suggested that children do not necessarily take over excessive power because of language brokering, and in many cases, power may still remain in the parents' hands (Dorner, et al., 2008; Orellana, Dorner, & Pulido, 2003). Thus, I hypothesize that parental monitoring, the extent to which parents know the child's whereabouts, which is an indicator of positive parental control, may provide a positive family context where the children perceive their parents to have power and authority. Studies show that higher levels of parental monitoring are associated with fewer adjustment problems in adolescents, including Chinese American adolescents (Criss et al., 2015; Kim & Ge, 2000). As such, when parental monitoring is high, brokering-related parental dependence may be more likely to relate to parent-child mutual regard, rather than parent-child role reversal.

On the other hand, parental psychological control–a negative form of parental control–can set a negative family context. Parental psychological control has been consistently found to have deleterious effects on adolescent adjustment (Campione-Barr, Lindell, Greer, & Rose, 2014; Cui, Morris, Criss, Houltberg, & Silk, 2014). Moreover, parental psychological control has been identified as a negative moderator for the influence of language brokering: it is found that, among Chinese Canadian adolescents, an increase in language brokering frequency is associated with increases in negative adolescent outcomes (higher internalizing symptoms and lower self-esteem) when there is high parental psychological control within the family (Hua & Costigan, 2012). Based on this finding, I hypothesize that when parental psychological control is high, then brokering-related parental dependence is more likely to be associated with parent-child role reversal, rather than mutual regard.

The other important dimension of parenting along with parental control is parental warmth (Maccoby & Martin, 1983). Studies have frequently found a positive association between parental warmth/responsiveness and better child adjustment (see Pinquart, 2015 for a review). Parental warmth and appreciation seems to be important for language brokers' adjustment as well. For example, parental praise for language brokers is found to have a positive influence on the brokers' perceived parent-child relation (Guan & Shen, 2015). Similarly, language brokers' perceptions of parental support had an inverse association with language brokering burden (Weisskirch, 2013). In addition, parental warmth was found to alter the relation between language brokering and self-efficacy,

such that language brokering was associated with lower self-efficacy when parental warmth was low, but not when parental warmth was high (Oznobishin & Kurman, 2009). It is plausible that immigrant parents' dependence on the adolescent or emerging adult children to language broker may not lead to problematic parent-child role-reversal if the parents frequently show their love and affection. Rather, for language brokers from warm and loving family contexts, parental dependence may have a more positive meaning, and may be linked to better parent-child interactive dynamics in which both parties value each other's opinions.

Language Brokering and Developmental Stages

Language brokering can occur as early as the age of 8 (McQuillan & Tse, 1995; Tse, 1995) and greatly increases in frequency as the child enters adolescence (e.g., Buriel, Love, & Villanueva, 2011) and continues to occur in emerging adulthood (e.g., Weisskirch, et al., 2011). Given the conflicting findings in extant literature, scholars have speculated, as well as found some initial evidence, that language brokering may have differential effects for individuals in different developmental stages. On the one hand, it is possible that as the language brokers move out of adolescence and transition into emerging adulthood, language brokering may influence parent-child relationships more positively compared to adolescence. Love and Buriel (2007) reasoned that, language brokering may have more negative impact for younger children, and that the positive aspects of developmental outcomes associated with language brokering may occur during later developmental periods when they develop higher cognitive and linguistic abilities,

and are psychologically more mature to assume adult-like responsibilities. In their longitudinal investigation, Dorner and colleagues (2008) also found that language brokers tended to report less nervousness and more confidence in their brokering skills as they matured.

On the other hand, it is also possible that, as the emerging adults take on other social roles, they may not be around their parents as often, or may leave home. Thus, they may not be able to language broker as frequently, and language brokering may not have as strong influence as during adolescence, positive or negative. In other words, the positive and/or negative influence of language brokering may weaken in emerging adulthood compared to adolescence. Thus, in this dissertation, I will compare mechanisms of language brokering effects in parent-child relationships during both adolescence and emerging adulthood to determine whether the interrelations among constructs of interest are more similar than different or vice versa.

LANGUAGE BROKERING WITH A PERSON-CENTERED APPROACH

Previous sections have discussed how language brokering frequency can have both positive and negative consequences for adolescents' parent-child relationships. While examining both positive and negative aspects of brokering-related parent-child relationships as outcomes of language brokering frequency is one way to reconcile the conflicting findings, an alternative and complimentary way is to examine language brokering with a person-centered approach. As informative as variable-centered approaches are, language brokers, as functioning whole persons, may need to be

examined from a holistic perspective. That is, the variability among language brokers needs to be examined, taking into consideration both positive and negative feelings about language brokering, and investigating how different feelings combine within language brokers to create various subsets of language brokers.

Earlier qualitative research showed how different adolescents being interviewed had different feelings toward language brokering (DeMent, et al., 2005; Dorner, et al., 2008). However, almost all subsequent quantitative analyses of language brokering took variable-centered approaches and examined the associations between language brokering frequency and the variables of developmental outcomes (e.g., Guan & Shen, 2015; Kam, 2011; Roche, et al., 2015; Weisskirch, 2013). To date, only a few studies have taken person-centered approaches and examined differences among groups of language brokers in their well-being.. For example, Martinez, McClure, & Eddy (2009) compared the adjustment of adolescents in high brokering contexts (i.e., families with bilingual adolescents and monolingual parents) versus low brokering contexts (i.e., families with bilingual adolescents and at least one bilingual parent), and found significant differences between the two groups of language brokers in a variety of academic, emotional, and behavioral outcomes, with those in low brokering contexts exhibiting better adjustment. In another study, language brokers were grouped into frequent, infrequent, and non-brokers, and their culture-related adjustment was compared, and frequent language brokers were found to generally exhibit better cultural adjustment than infrequent or non-brokers (Weisskirch, et al., 2011). Although person-centered in their nature, these studies

only relied on one dimension of language brokering–the frequency of brokering–and did not conceptualize language brokering as a multidimensional process that could elicit complex emotions in the brokers.

Language Brokering Feelings

As mentioned earlier, language brokering is a multidimensional behavior that encompasses more than just the dimension of frequency, but also multiple aspects of psychological feelings (Kam & Lazarevic, 2014a). Although limited, individual links between different language brokering feelings and language brokers' well-being have been established. For example, language brokers' *positive feelings* about oneself, including senses of independence and competence, were related to positive adjustment, including high self-esteem and decreased substance use (Kam, 2011). On the other hand, *negative feelings*, such as embarrassment and uneasiness, were related to poor adjustment, including problematic family relationships, depressive symptoms, and behavioral problems (Kam, 2011; Kam & Lazarevic, 2014b; Weisskirch, 2007). Furthermore, brokering-related *efficacy* and *burden* have also been documented as two relevant dimensions of feelings that language brokers experience (Weisskirch, 2013; Wu & Kim, 2009). Whereas language brokers' sense of efficacy was found to buffer the positive indirect association between brokering frequency and substance use (Kam & Lazarevic, 2014b), sense of burden was found to negatively impact language brokers' socioemotional well-being, such as self-esteem (Weisskirch, 2013).

Although individual links between the four dimensions of language brokering feelings—positive feelings, negative feelings, sense of efficacy, and sense of burden—and language brokers' developmental outcomes have been documented to some extent, no extant research seems to have examined all four dimensions within the same study. Examining all four dimensions of brokering feelings simultaneously is important, because they may not necessarily influence the language brokers' well-being in an additive fashion; rather, different aspects of language brokering may interact in impacting adolescents' well-being (Kam & Lazarevic, 2014b). As there are many possible ways of interactions among the four dimensions of brokering feelings, instead of examining the effects of all of the interactions on brokers' outcomes, a more meaningful way is to take a person-centered approach and explore possible subgroups of language brokers based on the grouping of the four different feelings. This way, language brokers are examined as functioning whole persons with potentially complex feelings toward the language brokering act.

Subgroups of Language Brokers Based on Language Brokering Feelings

As previously mentioned, findings regarding the consequences of language brokering have been mixed, suggesting complex effects for the brokers' parent-child relationships and adjustment (Morales & Hanson, 2005). At least three schools of thoughts have been documented in the literature (Roche, et al., 2015): one that suggests language brokering to be a positive experience enhancing adolescents' sense of maturity and independence (Guan, et al., 2014; Halgunseth, 2003), one that suggests language

brokering to be a negative and burdensome experience (Umaña-Taylor, 2003), and a third one that suggests language brokering to be a normative part of linguistic minority children's daily experiences, suggested by the children's nonchalant attitudes toward language brokering (Dorner, et al., 2008; Roche, et al., 2015).

Considered from a person-centered approach, these schools of thought may potentially reflect the existence of heterogeneous subgroups of language brokers characterized by distinct constellations of feelings and experiences of language brokering. For example, one subgroup may be identified whose members may have positive feelings toward language brokering and feel a strong sense of efficacy, but have low levels of negative feelings and sense of burden. Another subgroup may comprise language brokers who have negative feelings toward brokering and are burdened by brokering, and do not feel good or efficacious about language brokering. Additionally, there may be some who are not emotionally impacted by language brokering activities at all, who do not feel efficacious or burdened, and do not have either positive or negative feelings.

Predictors of Language Broker Subgroup Memberships

If language brokers can be divided into at least two heterogeneous subgroups, the next research question would be to explore whether certain individual and family characteristics might distinguish brokers belonging in one subgroup from those of other groups, as well as from non-brokers - those who do not provide language brokering support for their parents. First, some of the demographic characteristics have been found

to affect language brokering experiences, such as gender and age (Morales & Hanson, 2005). For example, girls are found to report more favorable feelings about language brokering than boys (Love & Buriel, 2007), and older children may feel more confident in their translating abilities and may have less negative feelings (Dorner, et al., 2008).

Second, language proficiency and language brokering frequency may also predict brokering experiences. For young language brokers, both English and heritage language proficiency matter, because the less fluent they are in either language, the more difficult language brokering tasks become for them, thus increasing the possibility of developing more negative, rather than positive, feelings toward brokering (Kam & Lazarevic, 2014a). This dissertation also proposes language brokering frequency as a potential predictor of language brokering feelings subgroups. While more frequent language brokering may lead to either higher efficacy and positive feelings, or heightened burden and negative feelings, or both, low frequency of brokering may result in less extreme emotions and feelings toward brokering. Additionally, parental characteristics, such as parental education and English-fluency, also need to be taken into consideration, as parents who are less educated or who are less fluent in English may require more language brokering in various domains and contexts from their children (Chao, 2006; Kam & Lazarevic, 2014a; Martinez, et al., 2009). Thus, language brokering for these parents may be more complicated and difficult, and language brokers may have more negative feelings toward language brokering. Finally, both adolescents' and the parents' cultural orientations are considered as predictors of language broker profiles. Parents who

are less oriented to the American culture and more oriented to the heritage culture may require more language brokering (Martinez, et al., 2009), and children who are less oriented to the American culture and more oriented to the heritage culture may find language brokering more challenging and stressful, as they have limited knowledge in the mainstream culture (Weisskirch & Alva, 2002).

Developmental Outcomes of the Subgroups

If there truly are heterogeneous subgroups of language brokers, they may exhibit potentially differential developmental outcomes, including parent-child relationships and adolescent psychosocial and academic adjustment. For example, compared to those who feel positively towards language brokering and non-brokers, those who are burdened by language brokering may have poorer parent-child relationships, such as more parent-child conflict and more alienation from parents. Similarly, compared to efficacious language brokers and non-brokers, burdened brokers may show higher levels of depressive symptoms, delinquency, and may have poorer academic performance. In contrast, those who feel positively about language brokering may exhibit comparable or even better adjustment than those non-brokers.

Therefore, Study 2 examines a broad range of developmental outcomes for different subgroups of language brokers and non-brokers. In particular, Study 2 goes beyond investigating context-specific, brokering-related parent-child relationships that are investigated in Study 1. Rather, Study 2 examines general parent-child relationships (i.e., parent-child alienation and conflict) and indicators of language brokers' well-being

in multiple domains of adjustment, including socioemotional (i.e., depressive symptoms), behavioral, (i.e., delinquent behaviors), and academic adjustment (i.e., academic achievement) for all adolescents (see Figure 3 for a conceptual model).

Finally, some adolescent language brokers may no longer provide language brokering assistance in their emerging adulthood, whereas some others may become new language brokers. Additionally, for long-term language brokers, some of them may have stable and consistent feelings about language brokering, while some others may transition into other language broker subgroups over time. It is plausible that consistently burdened language brokers in their adolescence and emerging adulthood may exhibit poor developmental outcomes in emerging adulthood, while consistently efficacious language brokers may be well-adjusted in their emerging adulthood. Therefore, this dissertation further investigates long-term transition patterns among language broker subgroups across adolescence and emerging adulthood and examines the differences in the developmental outcomes in emerging adulthood among the transition subgroups.

RESEARCH QUESTIONS

Although it is becoming increasingly clear that the effect of language brokering is not as clear-cut as simply positive or negative (Kam & Lazarevic, 2014a; Morales & Hanson, 2005), few studies have attempted to incorporate the complex effects of language brokering within the same study (see Roche, et al., 2015 for an exception). This dissertation uses quantitative methods to disentangle the complex effects of language brokering among Chinese immigrant families with adolescents, integrating both variable-

centered and person-centered approaches. Specifically, this dissertation aims to answer the following research questions:

Research Questions for Study 1:

1. How is language brokering frequency related to parent-child relationships in the context of language brokering?

   Hypothesis 1: Language brokering frequency will be positively associated with both brokering-related parent-child role reversal and parent-child mutual regard through brokering-related parental dependence during adolescence, emerging adulthood, and longitudinally.

2. Are the relations between language brokering frequency and parent-child relationships in the context of language brokering moderated by parenting practices?

   Hypothesis 2: Language brokers' perceptions of their mothers' positive parenting practices (i.e., high monitoring, high warmth, and low psychological control) will serve as moderators by attenuating the positive association between brokering-related parental dependence and parent-child role reversal and magnifying that between parental dependence and parent-child mutual regard.

Research Questions for Study 2 (as research questions are more exploratory, specific hypotheses are not proposed):

3. Are there subgroups of adolescent language brokers who can be distinguished by different constellations of language brokering feelings during adolescence?
4. What are some developmental antecedents and consequences of such subgroup memberships in adolescence, including that of a known subgroup of non-brokers, and what are long-term developmental outcomes of transitions across subgroups?

Chapter 3: Research Methods

PARTICIPANTS

Participants come from a larger longitudinal study of Chinese American families with adolescents residing in Northern California. In the larger study, adolescents were followed three times when they were in middle school, high school, and post-high school, with a 4-year interval between waves. As scales of interest were not developed until the second wave of the original study, this dissertation only uses the latter two waves of data for analyses; that is, when adolescents were in high school (T1) and post-high school (T2). At T1, participants were between 16-19 years old (*M*age = 17.0; *SD* = 0.73; 61% female). Given that Study 1 focuses on the consequences of frequent language brokering for mother-child dyads, only data from adolescents who reported having brokered for their mothers by T1 (N = 252) are used for analyses at T1, and only data from those who reported language brokering at both T1 and T2 (N = 197) are used for longitudinal analyses. Given that Study 2 also involves non-brokers in addition to language brokers, analytical samples for Study 2 are larger than for Study 1. In total, information from 394 participants is used for Study 2 (N = 350 at T1; N = 335 at T2). For longitudinal analyses, the sample is further restricted to those who have language brokering information available at both times (i.e., reports on whether or not they served as language brokers and language brokering feelings; N = 291) due to the study's focus on transitions across different language brokering subgroups. Most youth participants in this analytic sample were born in the U.S. (70%), whereas almost all of their parents were foreign born.

PROCEDURES

In year 2002, seven middle schools that had a substantive population of Asian American students (at least 20% of the student body) were first contacted to participate in the study. Eligible Chinese American students were identified with the help of school administrators at these schools, and 47% of them consented to participate in the study. Questionnaires, which were available in both English and Chinese, were distributed at school or mailed to their homes, and researchers collected questionnaires back 2-3 weeks after distribution. Of those participants who received questionnaires, 76% completed the surveys. About 79% of the families participated in the first follow-up study in 2006 (T1), while about 75% of the initially recruited families participated in the second follow-up in 2010 (T2), which are the two waves of data used in this dissertation.

STUDY 1: MEASURES

Language Brokering Frequency

Language brokers were first identified based on adolescents' responses to the question "have you ever translated something from English to Chinese for your parents? (This could include spoken or written words, phrases, or sentences)." Only those who answered affirmatively were included in the analyses for this dissertation. Adolescents were then further asked how often they had translated from English to Chinese for their *mothers*. Adolescents rated their frequency of translation on a scale of 1 (*never*) to 5 (*daily*). When adolescents rated "*never*", they were further deleted from subsequent analyses.

Brokering-Related Parent-Child Relationships

Measures for brokering-related parent-child relationships come from previously validated subscales of the Language Brokering Scale (LBS; Kim et al., 2014). Adolescents were asked to rate the extent to which they agreed on statements related to their language brokering experiences. Three aspects of parent-child relationships were asked, including *parental dependence*, *parent-child role reversal*, and *parent-child mutual regard*. *Parental dependence* included four items that measured the extent to which the parent depended on the child for translation as well as the child's sense of obligation to translate for the parent. A sample item is "my parent has come to depend on me to translate for him/her." *Parent-child role reversal* consisted of seven items that captured the degree to which adolescents considered the parent to be powerless as well as adolescents' lack of respect for the parent. A sample item is "My parent is powerless when s/he asks me to translate". *Parent-child mutual regard* comprised three items that reflected high regards between the adolescent and the parent. A sample item would be "I value my parent's opinion because I translate for him/her". Full lists of items can be found in Appendix 1. All items for brokering-related parent-child relationships were rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scales showed adequate to good reliability (α ranged from .60-.85; see Table 1). Item scores were then averaged for each scale. Higher values of the three scales indicate higher levels of parental dependence, parent-child role reversal, and parent-child mutual regard.

Parenting Practices

Three dimensions of parenting practices were used in the current study: monitoring, psychological control, and warmth. All scales were based on adolescents' self-reports to capture adolescent perceptions of parenting practices. Scales for parental monitoring and warmth were adapted from the Iowa Youth and Families Project (Conger, Patterson, & Ge, 1995; Ge, Best, Conger, & Simons, 1996), whereas the scale for parental psychological control was assessed using the measure developed by Barber (1996).

Three items were used to measure parental monitoring. A sample is "during the day, does your parent know where you are and what you are doing?" The response scale ranged from 1 (*always*) to 7 (*never*). In addition, eight items were used to measure parental psychological control. A sample item is "(my parent) is less friendly with me if I do not see things his/her way." The response scale for this measure ranged from 1 (*seldom*) to 3 (*often*). Finally, eight items were used to measure parental warmth, for which youth rated how often during the past month the parent engaged in certain behaviors. For example, one of the questions asks how often the parent acted "loving, affectionate, and caring towards" the youth. The response scale for this measure ranged from 1 (*never*) to 5 (*fairly often*). Items used to measure the three parenting dimensions are listed in Appendix 2. Mean scores were then created for each scale. The Cronbach's alpha for the three dimensions of parenting practices ranged from .67 to .93 across time points (see Table 1). Higher values of the three scales indicate higher levels of parental

monitoring, psychological control, and parental warmth.

Demographic Characteristics

Adolescent gender and age were included in analyses as control variables. Additionally, for analyses involving T2 measures, the child's living status (0 = *not living with parents*; 1 = *living with at least one parent*) at T2 was also controlled for.

STUDY 2: MEASURES

Language Brokering Feelings

Language brokering feelings at T1 and T2 were measured using subscales of the Language Brokering Scale (LBS; Kim, et al., 2014). Four dimensions of adolescent language brokering feelings were assessed at both times. Specifically, three items measured *positive feelings* about language brokering (e.g., "Translating makes me feel independent and mature"), six items measured *negative feelings* (e.g., I feel helpless when my parent asks me to translate"), three items measured *language brokering efficacy* (e.g., "I am effective at translating"), and another four items measured *language brokering burden* (e.g., "Translating takes time away from other things I want to do"). Items are listed in Appendix 3. Each item was rated on a 5-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Item scores were then averaged for each scale so that higher mean values indicated higher levels of positive feelings, negative feelings, efficacy, and burden of language brokering. The Cronbach's alpha for language brokering feelings ranged from .77-.92 across time points (see Table 3).

Demographic characteristics

Similar to Study 1, adolescents' gender and age will be included in analyses. In addition, adolescent English and Chinese language proficiency, parent English proficiency and educational attainment at T1 were included. Adolescents' and parents' language proficiency was assessed with two items measuring their perceived ability in speaking/understanding and reading/writing Chinese/English languages (i.e., how well do you speak and understand Chinese/English; how well do you read and write Chinese/English). The response scale ranged from 1 (*not well*) to 5 (*extremely well*). Parental education was assessed on a scale ranging from 1 (*no formal schooling*) to 9 (*finished graduate degree [medical, law, Master's degree, etc.]*). Additionally, for analyses involving T2 measures, the child's living status (0 = *not living with parents*; 1 = *living with at least one parent*) at T2 was also included.

Language Brokering Frequency

The measure of brokering frequency was assessed at T1 and was the same as that used in Study 1.

Cultural Orientations

Parent and adolescent acculturation and enculturation were measured at T1 using the 20-item cultural orientation scale of the Vancouver Index of Acculturation (Ryder, Alden, & Paulhus, 2000). For both Chinese and American cultural orientations, this measure captures 10 different domains of the acculturation process, such as traditions and values, and it has been well validated with Asian American adolescents (Weaver & Kim,

2008). Sample items for acculturation subscale include, "I often follow mainstream American cultural traditions (e.g., celebrate holidays)," and sample items for the enculturation subscale include "I enjoy social activities with Chinese people." The response scale ranged from 1 (*strongly disagree*) to 5 (*strongly agree*), with higher mean scores indicating greater levels of acculturation or enculturation. Cronbach's alpha coefficients were .85 and .86 for mothers' acculturation and enculturation, and .79 and .86 for adolescents' acculturation and enculturation, respectively. Items are listed in Appendix 4.

General Parent-Child Relationships

Two measures will be used to measure general parent-child relationships within the family at both T1 and T2. *Parent-child Alienation* was assessed using the alienation from parents subscale of the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). On a scale of 1 (*almost or never true*) to 5 (*almost always or always true*), participants rated eight items capturing their perceived alienation and isolation from parents. A sample item is "my parents don't understand what I'm going through these days." *Parent-child conflict* was measured using an adapted version of the Asian American Family Conflict Scale (Lee, Choe, Kim, & Ngo, 2000). On a scale of 1 (*almost never*) to 5 (*almost always*), adolescents were asked to rate ten items on culturally salient conflicts with a parent. A sample item is "your parent tells you what to do with your life, but you want to make your own decisions." Items for the two scales are listed in Appendix 5. Item scores were averaged to obtain mean scores for parent-child alienation

and conflict, and higher scores indicated higher levels of parent-child alienation and conflict, respectively. The measures showed good reliability (α ranged from .86-.90 across time points; see Table 3).

Adolescent Adjustment

Adolescents' academic adjustment at T1 was assessed using grade point average (GPA) obtained from school records, which ranged on a scale of 0-4. Academic adjustment at T2 was assessed using adolescents' self-reported grades ranging from 1 "F" to 13 "A+", which was then converted to a scale ranging from 0 to 4. Adolescents' self-reports of *depressive symptoms* at T1 and T2 were collected using the 20-item Center for Epidemiological Studies Depression Scale (Radloff, 1977). Items included statements such as "I felt people disliked me", and was rated on a scale ranging from 0 (*rarely or none of the time*) to 3 (*most of the time*). Composite scores for depressive symptoms were created by taking the mean across the 20 items (four items were reverse-coded), with higher mean values indicating higher levels of depressive symptoms. The Cronbach's alpha ranged from 0.90 to 0.91 across time points for depressive symptoms (see Table 3). Adolescent *delinquency* was assessed at both T1 and T2 using an adapted 9-item measure of "rule-breaking behaviors" subscale of the Child Behavior Checklist (Achenbach, 2001). A sample item is "I lie or cheat." For this measure, three additional items (e.g., I illegally copy computer software) were added based on a previous study (Le & Stockdale, 2005) to capture delinquent behaviors more relevant to Asian Americans. The responses were originally rated on a scale ranging from 0 (*not true*) to 2 (*often true or*

very true). However, due to low frequencies of delinquent behaviors, items were dichotomized for analyses such that 0 reflected *no delinquency*, and 1 reflected *some delinquency*. The mean was taken across the nine dichotomized delinquency items to obtain a composite score of delinquency, such that higher mean scores indicated higher levels of delinquent behaviors. Full lists of items can be found in Appendix 6.

STUDY 1: ANALYSIS PLAN

All analyses were conducted using Mplus (Muthén & Muthén, 1998-2015). Mplus handles missing data by utilizing all available information from the covariance matrix through full information maximum likelihood (FIML) estimation (Enders, 2001). To answer the first two research questions, data analyses proceeded in the following steps. First, to test the hypothesis that language brokering frequency would indirectly relate to both brokering-related parent-child role reversal and parent-child mutual regard through parental dependence, path analyses were conducted cross-sectionally using T1 data and longitudinally using T1 and T2 data. Language brokering frequency was specified to predict parental dependence, which was, in turn, specified to predict both parent-child role reversal and parent-child mutual regard. Next, the second hypothesis was tested that parental monitoring, parental psychological control, and parental warmth would moderate the relation between parental dependence and parent-child role reversal and parent-child mutual regard. The moderation of three hypothesized moderators were tested in three separate models, where the moderator and the interaction term between the moderator and parental dependence were added as predictors of the outcome variables (i.e.,

brokering-related parent-child role reversal and mutual regard). For significant interaction effects, the interaction was further probed using the Johnson-Neyman technique (Johnson & Neyman, 1936; Preacher, Rucker, & Hayes, 2007). Specifically, the magnitude of the indirect effect for the path from language brokering frequency to the relevant outcome variable would be computed as a function of the moderator's value on a continuum.

STUDY 2: ANALYSIS PLAN

In Study 2, in order to explore potential subgroups among language brokers based on their feelings about language brokering (research question 3), latent profile analysis (LPA) was conducted at T1 using four dimensions of language brokering feelings: brokering burden, negative feelings, brokering efficacy, and positive feelings. Models were estimated sequentially specifying one through five profiles. The optimal solution was selected based on the following model fit indices: loglikelihood, Bayesian information criterion (BIC), the sample size adjusted BIC (ABIC), entropy, and the Lo-Mendel-Rubin (LMR) likelihood ratio test. Higher loglikelihood and entropy values, as well as smaller BIC and ABIC values, would indicate better model fit, and a significant likelihood ratio test would indicate a significant improvement in model fit from the previous model.

Next, cross-sectional predictors and outcomes of language broker subgroup memberships were examined at T1 (research question 4). Specifically, to identify predictors of subgroup memberships, multinomial logistic regressions were conducted, regressing the profiles—including a known class of non-brokers—on the proposed

predictors. This allows for the comparison of probabilities of being in other groups to that of being in the reference group (Hosmer & Lemeshow, 2000). Reference groups were rotated to obtain all possible comparisons among the groups. As non-brokers do not have reports available for language brokering frequency, and because assigning the value of zero to all non-brokers would disproportionately skew the variable (such that having a value of zero for language brokering frequency would perfectly predict being in the non-broker subgroup in the regression), it is only included as a potential predictor for the comparison within language brokers, but not for that between brokers and non-brokers.

To identify contemporaneous outcomes of subgroup memberships, path analyses were conducted at T1, regressing outcome variables on language broker profiles, controlling for the predictor variables. Adjustment indicators (i.e., depressive symptoms, delinquency, and academic adjustment) were further regressed on parent-child relationship indicators (i.e., alienation and conflict). Language broker profiles were dummy-coded, assigning one profile to be the reference profile. A significant regression coefficient would suggest a significant difference between a given profile and the reference profile. Again, reference profiles were rotated to obtain all possible comparisons among the groups. Finally, to investigate developmental outcomes of subgroup memberships longitudinally, latent profile analysis was repeated at T2, and profiles at the two times were cross-tabulated to create long-term language broker transition subgroups. Path analyses were conducted, which regressed outcomes at T2 on the long-term language broker subgroups, controlling for earlier levels of outcomes at T1.

Chapter 4: Results

STUDY 1: RESULTS

To answer research question 1, three mediational models were examined (see Table 6. The first model examined the indirect effects of language brokering frequency on parent-child role reversal and parent-child mutual regard at T1 (Figure 4). As expected, language brokering frequency was significantly associated with parental dependence ($\beta = .34$, $p < .001$), which then positively related to both parent-child role reversal ($\beta = .38$, $p < .001$) and parent-child mutual regard ($\beta = .28$, $p < .001$).

In a similar manner, the second model examined the mediational paths at T2 for both-time language brokers (Figure 5), controlling for earlier levels of parent-child relationship indicators, as well as the emerging adults' living status (i.e., whether or not they were still living with at least one parent at T2). Similar relations among variables were found for T2, whereby language brokering frequency had a positive relation with parental dependence ($\beta = .38$, $p < .001$), which then positively associated with both parent-child role reversal ($\beta = .37$, $p < .001$) and parent-child mutual regard ($\beta = .26$, $p < .001$). Additionally, emerging adults who still lived with at least one parent at T2 were more likely than those who did not to engage in language brokering activities more frequently ($\beta = .25$, $p < .001$) and also reported lower levels of parent-child mutual regard ($\beta = -.18$, $p = .005$). In order to determine whether both-time language brokers were significantly different than those who only acted as language brokers at T1, the two groups' reports were further compared on language brokering frequency, parental

dependency, role reversal, and mutual regard at T1. No significant difference was found between the two groups (ΔM_{range} = 0.035-0.109, p_{range} = .34-.81).

I further examined whether and how the mean values of key variables changed from T1 to T2 using "MODEL CONSTRAINT: NEW" parameter function in Mplus. Among those who language brokered at both times, there was a significant decline in language brokering frequency (ΔM = -0.18, p = .007), a significant decline in brokering-related parent-child role reversal (ΔM = -0.11, p = .04), and a significant increase in brokering-related parent-child mutual regard (ΔM = 0.19, p = .001), but no significant change in brokering-related parental dependency over time.

In response to research question 2, the three hypothesized moderators, parental monitoring, parental warmth, and psychological control, were entered separately into the mediational models at T1 and T2, as were the interaction terms between parenting practices and parental dependence. Specifically, parenting practices at T1 were used for the T1 model, and those at T2 were used for the T2 model. Parenting practices and parental dependence were all centered before creating the interaction terms. Fit indices of these models and indirect effects from language brokering frequency to distal outcomes of parent-child role-reversal and mutual regard are listed in Table 7. The results for these models are summarized below in the same order as listed in the table.

The first two models tested adolescents' perceptions of parental monitoring and parental psychological control as the potential moderators at T1. Parental monitoring negatively related to brokering-related parent-child role reversal (β = -.25, p < .001) and

positively related to brokering-related parent-child regard (β = .22, $p < .001$), whereas the opposite was true for parental psychological control: a positive relation to brokering-related parent-child role-reversal (β = .29, $p < .001$) and a negative relation to brokering-related parent-child regard (β = -.15, $p = .01$). However, the interaction between brokering-related parental dependence and parental monitoring was only marginally significant (β = -.09, $p = .08$) when predicting brokering-related role-reversal, and nonsignificant when predicting brokering-related parent-child regard (β = -.001, $p = .99$). Similarly, the interaction between brokering-related parental dependence and parental psychological control was only marginally significant in predicting parent-child role-reversal (β = .08, $p = .09$) and nonsignificant in predicting parent-child mutual regard (β = -.06, $p = .40$).

The third model tested the moderation by parental warmth. As seen in Figure 6, parental warmth was negatively associated with parent-child role reversal, and positively associated parent-child regard. Moreover, parental warmth significantly interacted with parental dependence in predicting brokering-related parent-child regard. As a result, the magnitude of the indirect effect of language brokering frequency on brokering-related parent-child regard was moderated by the level of parental warmth. In order to aid in its interpretation, the significant interaction was probed to determine the change in the indirect effect as a function of the level of parental warmth. As seen in Figure 7, as the level of parental warmth increases, so does the magnitude of the indirect effect of language brokering frequency on parent-child regard.

Turning to the moderation models at T2, although not shown in Figure 8, levels of the mediator and the distal outcomes at T1 were controlled for, in addition to language brokers' living status at T2. Consistent with T1 results, parental monitoring and psychological control did not significantly interact with language brokering parental dependence in predicting language brokering parent-child role reversal (β = .04, p = .54; β = .05, p = .57) or language brokering parent-child regard (β = -.01, p = .91; β = -.02, p = .71). However, parental warmth significantly interacted with language brokering parental dependence in predicting language brokering parent-child regard (Figure 8). Again, after probing the significant interaction, results suggested that, as the level of parental warmth increases, so does the magnitude of the indirect effect of language brokering frequency on language brokering parent-child regard (Figure 9).

STUDY 2: RESULTS

In order to identify subgroups of language brokers, latent profile analysis (LPA) was conducted using four dimensions of language brokering feelings examined at T1: brokering burden, negative feelings, brokering efficacy, and sense of independence. To account for potential gender effects, adolescent gender was included as a covariate for the latent profile analysis. Examining model fit indices for 1-class to 5-class solutions (see Table 8), both the 2-class solution and the 4-class solution were acceptable. For example, the BIC value reached its minimum at the 4-class solution, and the LMR-LRT showed a marginally significant increase in model fit for the 4-class solution compared to the 3-class solution (p = .08). Similarly, the scree plots for all of the model fit indices suggested

that the increases in goodness of model fit started to level off after the 2-class solution, and the LMR-LRT test suggested a significant increase in model fit from 1-class to 2-class solution (p = .02). However, as the 4-class solution had rather small sample sizes (e.g., 8% and 5%), the 2-class solution was selected as the optimal model.

Language brokering feelings for the two profiles are plotted in Figure 10. The scores for language brokering feelings were compared across the two profiles using "MODEL CONSTRAINT: NEW" parameter command in Mplus. Significant differences were found for language brokering burden (ΔM = -1.25, p < .001), negative feelings (ΔM = -1.26, p < .001), brokering efficacy (ΔM = 0.61, p < .001), but the difference was only marginal for positive brokering feelings (ΔM = 0.27, p = .08). Based on these results, the first profile was labeled *efficacious language brokers* (n = 153; 61%), and the second profile was labeled *burdened language brokers* (n = 99; 39%). In addition to these two language broker profiles, a known profile of non-brokers was added to all subsequent analyses (n = 98). In total, among the three profiles of adolescents, 44% were *efficacious language brokers*, 28% were *burdened language brokers*, and another *28% were non-brokers*.

Next, most likely memberships obtained from the 2-class LPA model were assigned to each adolescent. Multinomial logistic regressions were then conducted to determine whether and how the hypothesized demographic, individual, and maternal predictors related to being in a certain class rather than another (see Table 9). First, the two subgroups of language brokers were compared to the reference subgroup of non-

brokers (Model 1). When comparing the efficacious language brokers to non-brokers, those adolescents who were more proficient in the Chinese language, those whose mothers had lower levels of education, lower English proficiency, and higher levels of Chinese cultural orientations were more likely to be efficacious language brokers rather than non-brokers. When comparing burdened language brokers to non-brokers, those adolescents whose mothers had lower levels of education, lower English proficiency, lower levels of American cultural orientation, and higher levels of Chinese cultural orientations were more likely to be burdened brokers, rather than non-brokers.

Second, for the comparison within language brokers (Model 2), language brokering frequency was added to the analysis as an additional predictor of the subgroup memberships. As non-brokers did not have data available for language brokering frequency, this subgroup was eliminated from the analysis. Results suggested that those adolescents who had higher proficiency in Chinese and English, as well as those whose mothers reported higher levels of American cultural orientation were more likely to be efficacious, rather than burdened brokers. Language brokering frequency, however, was not a significant predictor of whether or not language brokers were efficacious or burdened.

The next set of analyses examined whether or not the three classes of adolescents differed in their developmental outcomes, including parent-child relationships and adjustment. Both direct effects of profiles on adjustment indicators and indirect effects of profiles through parent-child relationships were specified. First, when the two classes of

langauge brokers were compared to non-brokers (Table 10), burdened language brokers reported significantly higher parent-child alienation and conflict, whereas efficacious language brokers did not report significantly different levels of alienation and conflict. Turning to adjustment indicators, efficacious language brokers reported significantly lower levels of depressive symptoms compared to non-brokers. In addition, being in the burdened language brokering class, compared to being non-brokers, indirectly related to higher levels of depressive symptoms and delinquent behaviors through significant relations with parent-child alienation.

The comparison within the two classes of language brokers (see Table 11) was conducted in a similar manner, except that a covariate of language brokering frequency was added to the model, and that non-brokers were removed from the model, as they did not have data available for language brokering frequency. Results suggested that efficacious language brokers reported lower levels of parent-child alienation and conflict compared to burdened brokers. In addition, being in the efficacious class, compared to the burdened class, was indirectly related to lower levels of depressive symptoms and delinquent behaviors through parent-child alienation.

In order to examine stability and change in language broker classes from adolescence to emerging adulthood, latent profile analysis (LPA) was conducted again using the four language brokering variables (burden, negative feelings, efficacy, and positive feelings) at T2. After examining all of the model fit indices for 1-class to 5-class solutions (see Table 12), the 2-class solution was selected as the optimal solution, as the

increases in goodness of model fit started to level off after the 2-class solution. Similar to the 2-class solution at T1, significant differences were found for language brokering burden (ΔM = -1.39, $p < .001$), negative feelings (ΔM = -1.33, $p < .001$), brokering efficacy (ΔM = 0.74, $p < .001$), and for positive brokering feelings (ΔM = 0.29, $p = .02$) across the two classes at T2 (see Figure 11). Consistent with T1, the two classes were labeled *efficacious language brokers* (n = 153; 61%) and *burdened language brokers* (n = 99; 39%). Adding the known class of non-brokers (n = 75), for the T2 sample, 47% were efficacious language brokers, 30% were burdened language brokers, and the other 23% were non-brokers. Class memberships at T1 and T2 are cross-tabulated in Table 13.

Based on cross-tabulation of class memberships at T1 and T2, dummy-coded transition classes were created. To ensure adequate power of the analyses, cases in those cells with low counts were combined as a single group of "other." Therefore, subsequent analyses compared the developmental outcomes of six groups: efficacious brokers at both times (n = 84; 29%), burdened brokers at both times (n = 51; 18%), those who were efficacious at T1 but were burdened at T2 (n = 34; 12%), those who were burdened at Time 1 but were efficacious at T2 (n = 28; 10%), non-brokers at both times (n = 63; 22%), and others (n = 31; 11%). The reference group was rotated so that all possible comparisons were conducted. Given the relatively large number of comparisons, only significant findings at $p <= .01$ level were interpreted.

As shown in Table 14, for parent-child relationships, compared to non-brokers, burdened brokers and those who became burdened at T2 reported higher levels of parent-

child alienation. In addition, compared to burdened brokers, efficacious brokers reported lower levels of parent-child alienation and conflict. Finally, compared to efficacious brokers, those who became burdened at T2 reported higher levels of parent-child alienation. Turning to adjustment indicators, compared to efficacious brokers, those who became burdened at T2 reported higher levels of delinquent behaviors. Additionally, compared to those who became burdened, those who became efficacious at T2 reported lower levels of delinquent behaviors. Finally, three significant indirect effects were found (see Table 15). Compared to non-brokers, burdened language brokers reported higher parent-child alienation, which was associated with higher levels of depressive symptoms. Moreover, compared to burdened brokers, efficacious language brokers reported lower levels of parent-child alienation, which associated with lower levels of depressive symptoms. Finally, compared to efficacious brokers, those who became burdened at T2 reported higher levels of alienation, which in turn, associated with higher levels of depressive symptoms.

Chapter 5: Discussion

The United States has witnessed unprecedented growth (a 131 million increase) of the immigrant population in the past half century, and the majority (84%) of immigrants do not speak English as their first language (Pew Research Center, 2015). Therefore, it is becoming increasingly important to recognize the key role of children and adolescents play as language brokers in facilitating the healthy functioning of immigrant families. It is of both scientific and practical significance to investigate the developmental consequences of language brokering, as it can inform educators and practitioners how to better safeguard and promote healthy development of these young language brokers.

However, scholarship in the past two decades on this issue has not reached consensus on whether or not language brokering poses a risk for young language brokers' well-being. This dissertation, therefore, uses two separate and complementary studies to examine the complex effects of language brokering. Specifically, Study 1 takes a variable-centered approach and directly assesses both positive and negative aspects of specific brokering-related parent-child relationships as outcomes of language brokering frequency. Study 2, on the other hand, takes a person-centered approach and explores subgroups of language brokers using dimensions of language brokering feelings. Furthermore, Study 2 goes beyond examining context-specific brokering-related parent-child relationships in Study 1 and investigates an array of developmental outcomes among subgroups of language brokers and non-brokers, including general parent-child relationships such as alienation and conflict, as well as psychosocial and academic

adjustment. Therefore, Studies 1 and 2 together, move beyond viewing young people's language brokering as a solely negative or a solely positive issue, but rather elucidate *how* and *under what circumstances* frequent language brokering may be more detrimental (or more beneficial), as well as *who* may be at risk (or may benefit) from language brokering. In the following sections, the main findings of Studies 1 and 2 are discussed separately.

STUDY 1: DISCUSSION

Using path analysis, Study 1 identifies simultaneous positive and negative indirect effects of language brokering frequency. While the vast majority of extant studies have sought to identify a clear-cut answer regarding the consequences of frequent language brokering, findings from Study 1 suggest that language brokering frequency is indirectly related to both brokering-related parent-child role reversal and mutual regard through brokering-related parental dependence. Findings further suggest that young language brokers' perceptions of their mothers' warmth matter, such that when language brokers perceive little maternal warmth, parental dependence is associated with only parent-child role reversal, but not mutual regard. Finally, whereas the majority of research on language brokering has been cross-sectional, and a smaller proportion has been short-term longitudinal (e.g., Kam, 2011), this study, to the author's knowledge, is the first longitudinal study to have examined the consequences of language brokering across mid-adolescence and emerging adulthood.

The finding that language brokering frequency is simultaneously associated with both positive and negative aspects of brokering-related parent-child relationships bridges the two currently existing, opposite schools of thoughts; that is, one that proposes that frequent language brokering results in unhealthy parent-child role-reversal (e.g., Umaña-Taylor, 2003) and one that posits that frequent language brokering enhances positive parent-child relationships (e.g., Orellana, et al., 2003). This result is also analogous to a recent finding that Mexican American adolescents' family assistance behaviors serve both as a protective and risk factor for adolescents' internalizing symptoms (Telzer, Tsai, Gonzales, & Fuligni, 2015). The parent-child relationship is considered to be the most emotionally intense relationships across the life span (Fingerman, Sechrist, & Birditt, 2013), and there is evidence that adolescents and emerging adults experience simultaneous positive and negative emotions towards parents (Tighe, Birditt, & Antonucci, 2016). It seems that frequent language brokering activities performed by young people for their mothers may further reinforce such mixed feelings.

The simultaneous effects of language brokering frequency on parent-child role reversal and parent-child mutual regard were mediated through brokering frequency's effect on brokering-related parental dependence at both times. The construct of parental dependence in the context of language brokering precisely captures the complex emotions young language brokers may feel towards their parents. It not only captures interdependence—a protective factor—between the parent and the child (Dorner, et al., 2008), but also assesses potential burden that the child may experience. Adolescence is a

time when children in families negotiate their identities as independent individuals from their parents, and as such, adolescents may inevitably have mixed feelings toward their parents (Tighe, et al., 2016). A previous study by Kim and colleagues (2014) found a perplexing positive association between brokering-related parent-child role reversal and brokering-related parent-child mutual regard in the context of language brokering, which could not be properly explained. The current study finds that language brokers' perceptions of parental dependence can serve as a common explanatory mechanism. As language brokering frequency increases, so does young brokers' perceptions of their parents' dependence, which is a mixed blessing, as it increases both feelings of parent-child role reversal and mutual regard.

Youth's adult roles and extra responsibilities are not unique to linguistic minority and immigrant families. Such behaviors are similar to what Elder (1999) referred to as "the downward extension of adult-like experience" documented among youth in economically deprived families during the Great Depression. In addition, mixed consequences that encompass both positive and negative aspects of frequent language brokering and brokering-related parental dependence are consistent with the theoretical model of childhood adultification in economically disadvantaged families (Burton, 2007), which posit that the adult roles and responsibilities that youth assume come with both assets (e.g., "sense of mattering" in the family) and liabilities (e.g., "mental health problems"). Additionally, such mixed effects of youths' assistance and responsibilities

are also evident in the context of physical or mental illness or disability (see Kavanaugh, Stamatopoulos, Cohen, & Zhang, 2016 for a review).

Turning to the longitudinal findings, for those who serve as language brokers across both developmental periods, they do not provide translation support as frequently in their emerging adulthood as during adolescence. This is potentially due to the fact that emerging adults engage in many other social relationships (e.g., college, work, etc) and do not spend as much time with their parents as when they were younger. Although this possibility was not directly tested, those who still live with at least one of the parents at T2 do report significantly higher language brokering frequency, which provides partial support for the relationship between the young adult's availability and language brokering frequency. In addition, among those who report language brokering at both times, there is a significant decline in brokers' reports of parent-child role reversal and a significant increase in their reports of parent-child mutual regard. These findings suggest that long-term language brokers' perceived parent-child relationships tend to improve over time. This supports findings from a previous qualitative study that finds reduced nervousness and more confidence in language brokers as they mature (Dorner, et al., 2008). It may also reflect a general developmental trend. As mentioned earlier, adolescents strive for autonomy (Steinberg, 1999). However, as they enter emerging adulthood, they may have established relative independence and autonomy compared to adolescence, and such mixed feelings may become less pronounced (Tighe, et al., 2016).

Finally, a significant interaction between parental warmth and brokering-related parental dependence is found for predicting language brokering parent-child mutual regard, both during language brokers' mid-adolescence and emerging adulthood, which should be considered in the context of indirect effects of language brokering frequency on language brokering parent-child relationships. Although more frequent language brokering is associated with higher levels of brokering-related parental dependence, whether or not such dependence contributes to higher levels of parent-child mutual regard depends on the family context (i.e., whether or not mothers are warm and affectionate). When language brokers do not perceive their mothers to be warm and affectionate, frequent language brokering has a solely negative impact for parent-child relationships (i.e., parent-child role reversal), both during mid-adolescence and emerging adulthood.

This is consistent with previous findings that frequent language brokering has a protective effect for adolescent language brokers' well-being only when they perceive high parental support and high-quality open communication (Oznobishin & Kurman, 2009; Shen, et al., 2014). Therefore, it seems that the positive consequences of providing frequent language brokering support and brokering-related parental dependence depends on whether or not the support is reciprocated by the parents. As mentioned earlier, youth's language brokering support and parental dependence provide both assets and liabilities. It seems that child's provision of brokering support may serve as assets when the parent is warm, supportive, and communicative. Perhaps children's provision of support given a warm family context indicates a resilient family system and temporary

redistribution of roles, which is relatively benign and enhances parent-child bonding and the young broker's well-being (Burton, 2007; Woolgar & Murray, 2010).

Some limitations of this study should be acknowledged. First, analyses for emerging adulthood, as well as longitudinal analyses, were only conducted for those who provided language brokering at both time points, as non-brokers do not have data available for the key variables of interest in this study. Therefore, information about new language brokers, as well as those who no longer serve as language brokers in emerging adulthood, are not captured. Second, only adolescents' self-reports about parenting practices, and language brokering-related parent-child relationships are used in this study, which are susceptible to self-report bias. However, as the focus of Study 1 was on examining language brokers' evaluations about brokering-related parent-child relationships as outcomes of frequent language brokering, adolescents' own reports are appropriate to use for the goals of this study (Chan, 2009; Wang & Kenny, 2014).

Finally, findings from this study have practical implications for interventions. It seems that, although adolescents' and emerging adults' frequent language brokering is connected to the brokers' perceptions of parental dependence, such dependence may foster mutual regard between the mother and the child, particularly when the brokers receive warmth and affection from their mothers. Thus, interventions may be designed to encourage warm and affectionate parenting practices in Chinese American mothers. Such interventions may help foster a mutually respectful, healthy dynamic between mothers and young language brokers within the family.

STUDY 2: DISCUSSION

Using latent profile analysis, Study 2 identifies two distinct subgroups of language brokers based on their reported feelings about language brokering activities. Taking into consideration one additional, known subgroup of non-brokers, memberships in these three subgroups are significantly predicted by some of the adolescents' and their mothers' characteristics. Furthermore, these three subgroups differ in their developmental outcomes, including parent-child relationships and individual adjustment, with the burdened language brokers reporting most problematic parent-child relationships and, in turn, adjustment problems. Finally, investigation of the long-term transition patterns from mid-adolescence to emerging adulthood reveals that stable burdened language brokers, as well as those who begin as efficacious brokers but then transition to burdened brokers, are more at risk than others.

Study 2 is one of the first few studies that have investigated the effects of language brokering from a person-centered approach. It is also the first study, to the author's knowledge, to have profiled language brokers based on their psychological experiences of language brokering, rather than brokering frequency only. This allowed for the identification of important within-group variability with regard to adolescents' and emerging adults' psychological experiences of language brokering. Since the first study that investigated child language brokering specifically (Tse, 1995), both theoretical ideas and empirical findings seem to have suggested mixed effects of language brokering, with more studies supporting the negative effects of brokering (e.g., Roche, et al., 2015;

Umaña-Taylor, 2003) and a smaller body of research advocating for the positive influences of brokering (e.g., Dorner, et al., 2008; Shen, et al., 2014). Findings from this study reconcile these two bodies of scholarship by identifying the existence of two heterogeneous groups of language brokers, with one group clearly showing the pernicious effects of language brokers and the other showing neutral to somewhat positive effects of brokering.

Our findings also identify important individual and parental characteristics that distinguished language brokers from non-brokers. In general, language brokers' mothers have lower education levels and English proficiency and higher levels of Chinese cultural orientation compared to non-brokers. The finding that low maternal education, a widely-used indicator of family socioeconomic status (Mistry, Biesanz, Chien, Howes, & Benner, 2008), is a significant predictor that distinguishes brokers from non-brokers is consistent with findings from a recent study with adolescents from the former Soviet Union (Jones, Trickett, & Birman, 2012). Additionally, the significant findings about low maternal English proficiency and high Chinese cultural orientation suggest that young people's language brokering should also be considered within the context of acculturation stress in immigrant families. Specifically, a previous study finds that language brokering for parents is associated with family-based acculturation stress (Kam & Lazarevic, 2014b). Thus, young people's language brokering should be understood within the family's larger socioeconomic and acculturation context.

Turning to the distinction between efficacious and burdened language brokers, their gender, age, and brokering frequency do not significantly predict being in one group over the other. Rather, the results suggest that the key difference between efficacious language brokers and burdened brokers lies in their bilingual proficiency. Those who are more proficient in both the host language *and* the heritage language are more likely to feel efficacious about language brokering, whereas those who are less proficient in either language are more likely to feel burdened about brokering. The threshold theory of bilingualism (Cummins, 1976; Ricciardelli, 1992) maintains that the cognitive benefits of bilingualism would emerge only when children are highly proficient in both languages. On the other hand, when children have low proficiency in either language, bilingualism would actually hinder children's cognitive development (Cummins, 1976; Ricciardelli, 1992). Thus, translation between languages may be less cognitively challenging for those who are more proficient in both languages, which results in psychological efficacy about language brokering.

In terms of developmental outcomes among the three subgroups, compared to non-brokers, burdened brokers are more likely to report higher levels of parent-child alienation and conflict. Furthermore, being burdened language brokers rather than non-brokers are also associated with more problematic adjustment through heightened parent-child sense of alienation. This finding is consistent with previous empirical studies that found detrimental effects of brokering frequency and negative feelings about brokering for both the brokers' parent-child relationships and socioemotional and behavioral

adjustment outcomes (Kam, 2011; Weisskirch, 2007). On the other hand, efficacious language brokers did not report significantly different parent-child relationships or behavioral outcomes compared to non-brokers. Moreover, efficacious language brokers reported lower levels of depressive symptoms compared to non-brokers, which is in marked contrast to the jeopardized parent-child relational and psychosocial adjustment among burdened brokers. Whereas the findings for the burdened brokers provide strong support for the predictions of role theory (Ashforth, 2001), findings about efficacious brokers support the interdependence script perspective (Dorner, et al., 2008).

This study further investigated how adolescents' language broker subgroup membership changed over time as adolescents transitioned from adolescence to emerging adulthood. Language broker classes generally remain stable, with the majority of adolescents staying in the same subgroup in their emerging adulthood. Consistent with the cross-sectional findings, stable burdened language brokers across adolescence and emerging adulthood report higher levels of parent-child alienation in emerging adulthood compared to non-brokers and efficacious brokers, which then lead to higher levels of depressive symptoms in emerging adulthood, even after controlling for earlier levels of parent-child relationships and adjustment during adolescence. In other words, stable burdened language brokers are more likely to experience deteriorating parent-child relationships, and in turn, worse psychological adjustment over time, from mid-adolescence to emerging adulthood. This suggests that language brokering can have

negative, long-term implications for some language brokers across developmental periods, if they were to feel burdened about brokering in their adolescence.

Moreover, transitions across language brokering classes also have implications for parent-child relationships and developmental outcomes. Those who begin as efficacious but transition to burdened brokers report higher alienation compared to non-brokers. Also, compared to stable efficacious language brokers, those who later become more burdened report higher alienation and, in turn, higher depressive symptoms. Although one of the goals for this study was to see if new language brokers and those who no longer language broker in their emerging adulthood would exhibit any different developmental outcomes than others, the sample sizes for these transitioning subgroups were not adequate to perform meaningful comparisons. Future longitudinal studies with larger samples can continue this line of research and identify the consequences of young people taking over or relinquishing language brokering responsibilities.

The study findings have several important practical implications in promoting healthy development of bilingual immigrant adolescents and emerging adults who act as language brokers. First, the current study highlights subgroups of immigrant adolescents who may be particularly at risk and in need of help. Although many first- and second-generation immigrant adolescents and emerging adults are bilingual to some extent, there is great variability in each individual's proficiency in both the host language and the heritage language. For Chinese American adolescents and emerging adults, some may struggle with their English, whereas some others may have limited Chinese proficiency.

It is important to recognize that the somewhat beneficial effects of language brokering are only evident for those who show adequate proficiency in both languages. In contrast, language brokering could be cognitively challenging and emotionally burdensome for those adolescents who are not proficient in one of the languages (Weisskirch & Alva, 2002). Therefore, whereas all child language brokers could benefit from the help of formal translators, it would be particularly helpful for those less fluent language brokers. Alternatively, intervention or education programs may be designed to provide preliminary training to improve Chinese immigrant parents' English skills, as well as the children's bilingual skills.

This study has several limitations. First, this study relied on a relatively small sample of Chinese American adolescents who were followed up into their emerging adulthood. Although this study successfully detected two heterogeneous language broker subgroups, it is possible that this study was underpowered, due to the small sample size, to detect more classes that may exist. For example, there may be one small subgroup who consider language brokering to be a normative part of their daily lives and may not report particularly high positive or negative psychological feelings about language brokering (Dorner, et al., 2008). Future studies with larger samples of language brokers may be able to detect more than two subgroups of language brokers with various constellations of feelings about language brokering. Second, although subgroups of language brokers significantly differed in domains of parent-child relationships and psychosocial adjustment, subgroup membership was not a significant predictor of academic

achievement, neither cross-sectionally nor longitudinally. This could be due to relative homogeneity in this sample's academic outcomes (93% of the sample were in a 2-year or 4-year college at Time 2). Future studies may recruit language brokers who exhibit a wider range of academic outcomes to determine whether language brokering hinders or enhances young people's academic development.

GENERAL DISCUSSION AND FUTURE DIRECTIONS

This dissertation focused on language brokering of Chinese American adolescent and emerging adult language brokers. Whether findings are generalizable to other racial/ethnic minority groups, such as other Asian ethnic language brokers and Latino brokers, is an open question. Spanish speaking immigrants are the largest group within the immigrant population (Pew Research Center, 2015). The majority of language brokering research has also been conducted for Latino adolescents and emerging adults (Kam & Lazarevic, 2014a). On the one hand, the theoretical predictions by role theory (Ashforth, 2001) and interdependence perspective (Dorner, et al., 2008) can be applicable to both Asian and Latino ethnic groups due to similar emphases on family hierarchy and family members' interdependence in the cultures. On the other hand, the greater linguistic distances between Asian languages and English compared to that between Spanish and English may potentially make language brokering more difficult for Asian adolescents (Kim & Chao, 2009). Therefore, future studies are needed that look into potential differences among language brokers from various racial/ethnic groups, with particular attention paid to the roles of culture and heritage language.

Also confounded with racial/ethnic difference is the variance in family socioeconomic status. It is found that first-generation Mexican American adolescents report more frequent language brokering than first-generation Chinese American adolescents, but such a difference in language brokering frequency is also paralleled by lower socioeconomic status of the sampled Mexican American families (i.e., lower parental education) than the Chinese American families (Chao, 2006). Therefore, the consequences of language brokering activities among youth from immigrant families should be considered within the socioeconomic contexts of the families. In addition to the dimension of language brokering frequency, the contents of translation may also be tied to family socioeconomic status. A recent qualitative study on bilingual Korean American children finds that language brokering work is class-specific, and that children learn about their parents' financial and legal problems through language brokering, which puts them at risk for emotional distress (Kwon, 2014). Hence, above and beyond linguistic and cognitive processes, language brokering may potentially have negative effects for some due to the problematic family processes associated with family economic hardship (Conger & Donnellan, 2007; Conger, Ge, Elder, Lorenz, & Simons, 1994). Future studies can sample immigrant families from a wider range of socioeconomic statuses to better identify how family socioeconomic status affects the consequences of child language brokering.

As for the cognitive and linguistic implications of language brokering, Study 2 identifies bilingual proficiency in Chinese American adolescents to be central to feeling

efficacious rather than burdened about language brokering. Some scholars have theorized language brokering as a cognitive, linguistic, and academic enhancer (Kam & Lazarevic, 2014a), and there is some empirical evidence for the benefits of language brokering for Spanish-English bilingual youth's performances in cognitive-linguistic experiments (Vaid, López, & Martínez, 2015) and academic performance (i.e., reading scores; Dorner, Orellana, & Li-Grining, 2007). However, no differences are found in this dissertation across non-brokers, efficacious brokers and burdened brokers among Chinese American adolescents for their academic achievement. Future studies sampling racially/ethnically and linguistically diverse language brokers may disentangle whether the effects of language brokering on academics are language-specific or domain-specific (i.e., only influencing reading scores).

Last but not least, in addition to examining the immediate familial context, it is also important to investigate interactions that occur outside of homes, as language brokering is usually a three-party activity, which involves not only the parents and the child broker, but also a third party outside of the family, such as clerks, bank tellers, and teachers (Katz, 2014). Racial/ethnic and linguistic minority adolescents and emerging adults, especially those who speak their heritage language in public spaces, may be subject to racial and linguistic profiling and discrimination (Dorner, et al., 2008). Experiences with the outside world, especially those around race and ethnicity are critical for children's healthy development (Garcia Coll et al., 1996). Future research should examine the implications of young language brokers' experiences outside the home, as

the experiences of those who have been discriminated against because of language brokering activities may differ than those with no such experiences.

CONCLUSION

In conclusion, this dissertation has integrated variable-centered and person-centered approaches and revealed complex effects of language brokering, both positive and negative, which provides some reconciliation in the debate about the influence of language brokering in the literature. From a variable-centered perspective, frequent language brokering seems to simultaneously reinforce both positive (i.e., brokering-related mother-child mutual regard) and negative (i.e., brokering-related mother-child role reversal) mother-child relationships across language brokers' adolescence and emerging adulthood, although the positive impact diminishes when language brokers do not perceive their mothers as warm or affectionate. Likewise, from a person-centered perspective, two distinct subgroups of language brokers seem to coexist: efficacious brokers and burdened brokers, who differ significantly in their psychological experiences about language brokering. A key predictor that distinguishes the two groups is bilingual proficiency. Finally, whereas efficacious brokers are not significantly affected by or even benefit from translating, burdened brokers' parent-child relationships and psychosocial well-being are at risk due to brokering. Studies 1 and 2 combined together, have important practical implications, as educators and counselors can better identify young language brokers at risk and properly design interventions to ensure healthy development of all young people in immigrant families.

Table 1. Descriptive Statistics for Variables in Study 1

		N	*M*	*SD*	α
1	LB frequency T1	243	3.44	0.93	---
2	LB frequency T2	196	3.26	0.90	---
3	P dependence T1	246	2.64	0.84	.70
4	P dependence T2	192	2.71	0.91	.75
5	P-c mutual regard T1	252	2.76	0.83	.67
6	P-c mutual regard T2	197	2.97	0.80	.60
7	P-c role reversal T1	251	1.75	0.62	.81
8	P-c role reversal T2	197	1.67	0.68	.85
9	P warmth T1	249	4.71	1.35	.93
10	P warmth T2	195	4.88	1.35	.93
11	P monitoring T1	251	3.78	0.83	.67
12	P monitoring T2	196	3.22	0.96	.85
13	P control T1	247	1.61	0.46	.83
14	P control T2	191	1.47	0.48	.88
15	Living with Parent T2	197	0.42	0.50	---

Note: LB = language brokering; P = parent; P-c = parent-child.

Table 2. Zero-Order Correlations among Variables in Study 1

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Female	---																
2	Age T1	.01	---															
3	LB frequency T1	.11	.03	---														
4	LB frequency T2	-.05	.03	.41**	---													
5	P dependence T1	.02	.10	.33**	.29**	---												
6	P dependence T2	-.02	.12	.20**	.48**	.49**	---											
7	P-c mutual regard T1	.08	-.04	.22**	.24**	.27**	.13	---										
8	P-c mutual regard T2	.04	.07	.08	.30**	.13	.22**	.46**	---									
9	P-c role reversal T1	-.08	.07	.09	.06	.38**	.22**	.06	-.09	---								
10	P-c role reversal T2	.01	.12	.02	.18*	.17*	.38**	.05	.06	.39**	---							
11	P warmth T1	.13*	.01	.14*	.13	-.01	.05	.46**	.35**	-.25**	.02	---						
12	P warmth T2	.14	-.01	.09	.22**	-.03	.02	.25**	.44**	-.18**	-.11	.53**	---					
13	P monitoring T1	.15*	-.10	.05	.11	-.02	.00	.22**	.19**	-.26**	-.02	.41**	.24**	---				
14	P monitoring T2	.14*	-.02	.01	.18**	.04	.11	.15*	.13	.02	.07	.17*	.37**	.29**	---			
15	P control T1	.09	-.01	.10	.05	.12	.07	-.12	-.12	.33**	.15*	-.34**	-.35**	-.23**	.03	---		
16	P control T2	.02	-.04	.07	-.01	-.02	.13	-.08	-.16*	.17*	.22**	-.22**	-.40**	-.07	.02	.57**	---	
17	Living with parent T2	-.06	.02	.11	.19**	.02	.16*	-.04	-.10	.08	.15*	.08	-.10	.01	.29**	.12*	.21**	---

Note: LB = language brokering; P = parent; P-c = parent-child. $^{*}p < .05$; $^{**}p < .01$

Table 3. Descriptive Statistics for Variables in Study 2

		N	*M*	*SD*	α
1	C Chinese T1	346	2.83	1.11	---
2	C English T1	346	4.37	0.69	---
3	C Acculturation T1	349	3.80	0.44	.79
4	C Enculturation T1	349	3.79	0.56	.86
5	P English T1	295	2.41	1.27	---
6	P Education T1	343	5.76	1.75	---
7	P Acculturation T1	308	3.37	0.49	.85
8	P Enculturation T1	308	3.86	0.50	.86
9	LB frequency T1	243	3.44	0.93	---
10	LB positive feelings T1	252	3.14	0.85	.77
11	LB positive feelings T2	250	3.28	0.87	.78
12	LB negative feelings T1	252	2.15	0.84	.78
13	LB negative feelings T2	251	1.98	0.85	.89
14	LB efficacy T1	246	2.90	0.87	.92
15	LB efficacy T2	243	3.11	0.91	.92
13	LB burden T1	252	2.76	1.00	.92
16	LB burden T2	251	2.66	1.04	.87
17	P-c alienation T1	340	2.80	0.73	.87
18	P-c alienation T2	329	2.65	0.73	.86
19	P-c conflict T1	338	2.81	0.90	.87
20	P-c conflict T2	320	2.48	0.90	.90
21	Depression T1	348	0.71	0.46	.90
22	Depression T2	331	0.63	0.45	.90
23	Delinquency T1	344	0.21	0.18	---
24	Delinquency T2	329	0.19	0.21	---
25	GPA T1	322	3.21	0.54	---
26	Grades T2	306	8.01	1.87	---

Note: C = child; P = parent; LB = language brokering; P-c = parent-child.

Table 4. Zero-Order Correlations among Predictor Variables and Language Brokering Feelings in Study 2

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Female	---														
2	Age T1	.00	---													
3	C Chinese T1	.11	.02	---												
4	C English T1	.02	-.12*	-.14*	---											
5	C Acculturation T1	.02	-.12*	-.06	.20**	---										
6	C Enculturation T1	.04	.00	.42**	-.01	.45**	---									
7	P English T1	-.07	.03	-.36**	.19**	.07	-.16**	---								
8	P education T1	-.04	-.07	-.21**	.14**	.12*	-.11*	.58**	---							
9	P Acculturation T1	.00	-.04	-.22**	.15**	.20**	-.05	.31**	.32**	---						
10	P Enculturation T1	.02	.03	.34**	.00	.10	.32**	-.12*	-.07	.18**	---					
11	LB frequency T1	.11	.03	.10	.05	.08	.02	-.25**	-.03	.04	.04	---				
12	LB positive feelings T1	.14*	-.06	.22**	.06	.21**	.21**	-.22**	-.09	.11	.16*	.13*	---			
13	LB negative feelings T1	.06	.07	-.19**	-.15*	-.03	-.05	-.15*	-.08	-.12	-.06	.14*	-.08	---		
14	LB efficacy T1	.07	-.10	.45**	.20**	.22**	.24**	-.03	.07	.11	.06	.14*	.47**	-.28**	---	
15	LB burden T1	.11	.10	-.13*	-.03	.01	-.05	-.25**	-.15*	-.08	-.02	.20**	.06	.65**	-.12	---

Note: C = child; P = parent; LB = language brokering. $^{*}p < .05$; $^{**}p < .01$.

Table 5. Zero-Order Correlations among Language Brokering Feelings and Outcome Variables in Study 2

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	LB positive feelings T1	---																	
2	LB positive feelings T2	.46**	---																
3	LB negative feelings T1	-.08	-.12	---															
4	LB negative feelings T2	-.07	-.10	.53**	---														
5	LB efficacy T1	.47**	.29**	-.28**	-.32**														
6	LB efficacy T2	.24**	.45**	-.26**	-.40**	.50**	---												
7	LB burden T1	.06	-.03	.65**	.35**	-.12	-.11	---											
8	LB burden T2	-.03	-.06	.45**	.65**	-.18*	-.20**	.50**	---										
9	P-c alienation T1	-.11	-.04	.26**	.23**	-.07	.01	.32**	.22**	---									
10	P-c alienation T2	-.16*	-.11	.27**	.39**	-.14*	-.05	.25**	.37**	.51**	---								
11	P-c conflict T1	.02	.11	.27**	.19**	.04	.06	.32**	.26**	.51**	.35**	---							
12	P-c conflict T2	.02	.10	.27**	.31**	-.02	.08	.25**	.32**	.32**	.52**	.53**	---						
13	Depression T1	.09	-.02	.02	-.12	.03	-.07	.03	-.03	-.09	-.18**	-.11*	-.26**	---					
14	Depression T2	.11	.07	-.05	.00	.13	.00	.04	.07	-.12*	-.23**	-.07	-.19**	.44**	---				
15	Delinquency T1	-.02	-.06	.25**	.22**	-.12	-.14*	.20**	.13*	.51**	.37**	.33**	.25**	-.14*	-.20**	---			
16	Delinquency T2	-.03	-.09	.22**	.30**	-.15*	-.18**	.06	.22**	.24**	.42**	.23**	.30**	-.10	-.24**	.50**	---		
17	GPA T1	-.09	-.04	.02	.05	-.07	.05	.10	-.01	.20**	.12*	.12*	.12*	-.19**	-.09	.21**	.14*	---	
18	Grades T2	-.08	-.07	-.06	.17**	-.16*	.02	-.13	.12	.06	.18**	.10	.22**	-.28**	-.14*	.19**	.23**	.42**	---

Note: LB = language brokering; P-c = parent-child. *$p < .05$; **$p < .01$.

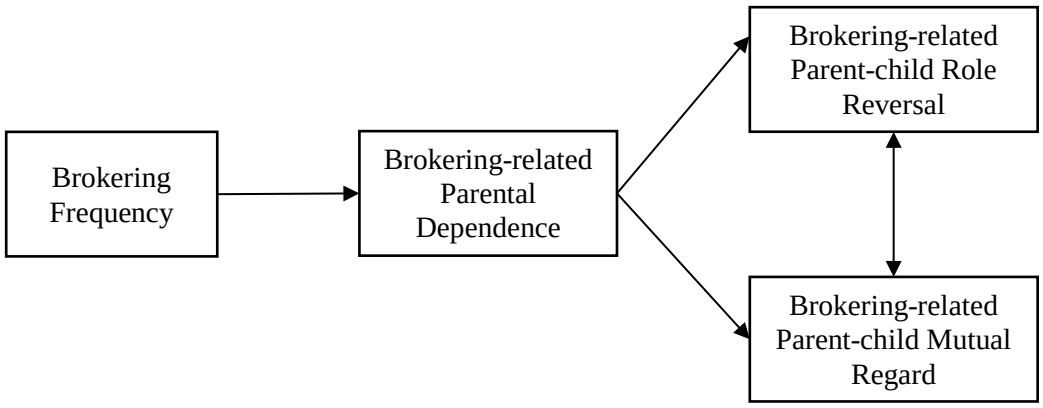

Figure 1. Conceptual model 1.

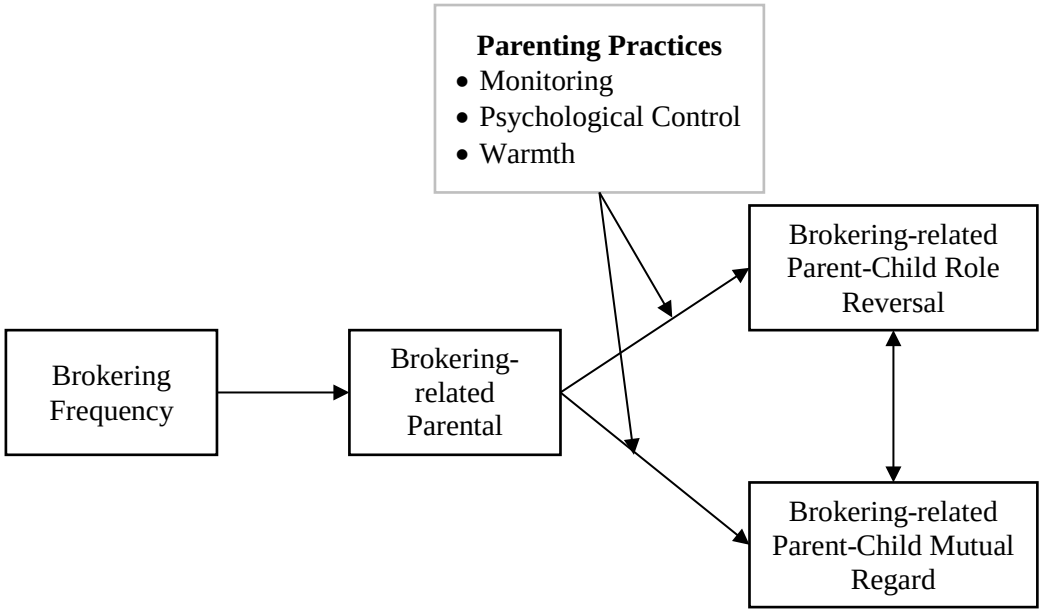

Figure 2. Conceptual model 2.

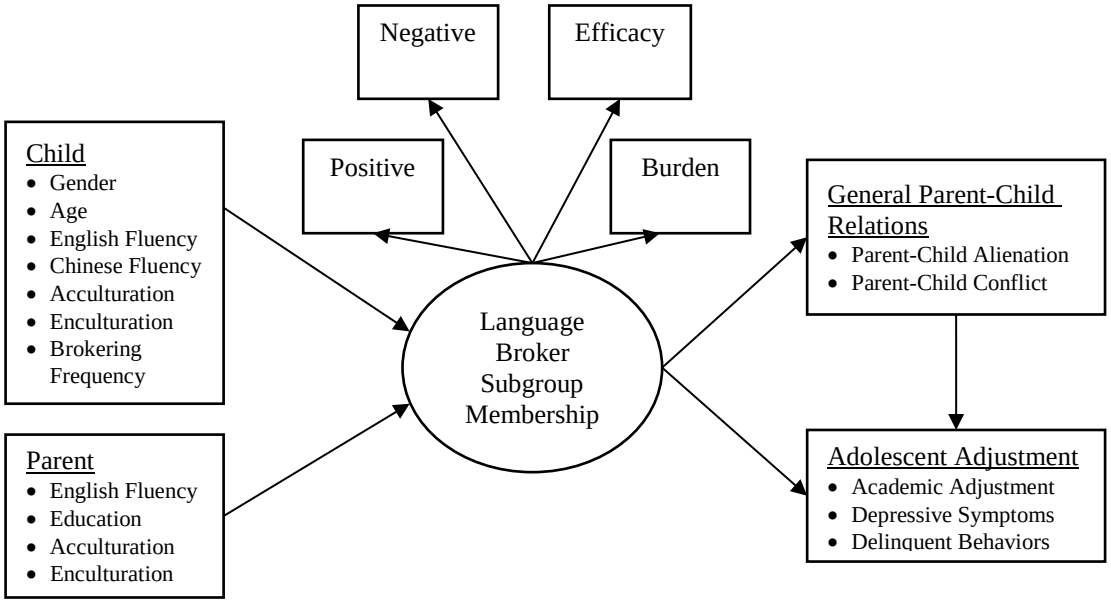

Figure 3. Conceptual model 3.

Table 6. Indirect Effects and Fit Indices of Mediation Models

Indirect effects	β	95% CI	χ^2	*df*	*p*	RMSEA	CFI	SRMR
Time 1: Mediation Model			4.54	2	.10	.07	.97	.02
LB frequency --> p dependence --> p-c role reversal	.13***	[.08, .19]						
LB frequency --> p dependence --> p-c mutual regard	.09***	[.05, .16]						
Time 2: Mediation Model			10.01	7	.19	.05	.99	.03
LB frequency --> p dependence --> p-c role reversal	.14***	[.08, .22]						
LB frequency --> p dependence --> p-c mutual regard	.10**	[.03, .17]						
Time 1 – Time 2: Mediation Model			4.95	2	.08	.09	.96	.02
ΔLB frequency --> Δp dependence --> Δp-c role reversal	.11**	[.04, .18]						
ΔLB frequency --> Δp dependence --> Δp-c mutual regard	.11***	[.04, .17]						

Note: LB = language brokering; P = parent; P-c = parent-child. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

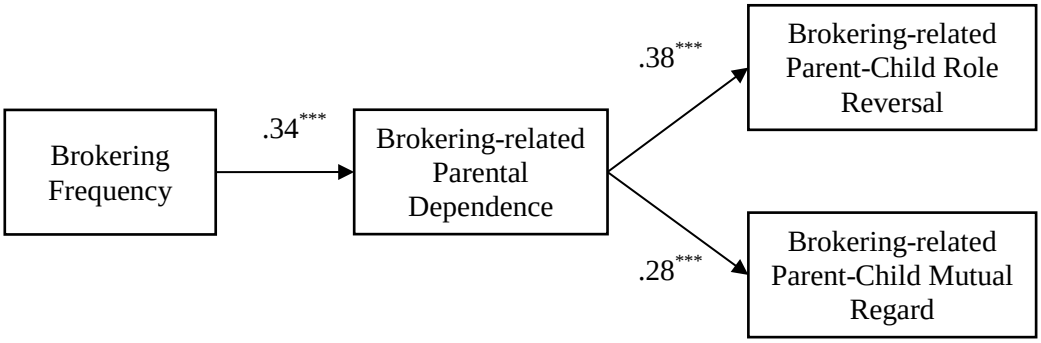

Figure 4. Time 1 mediation model.
***$p < .001$

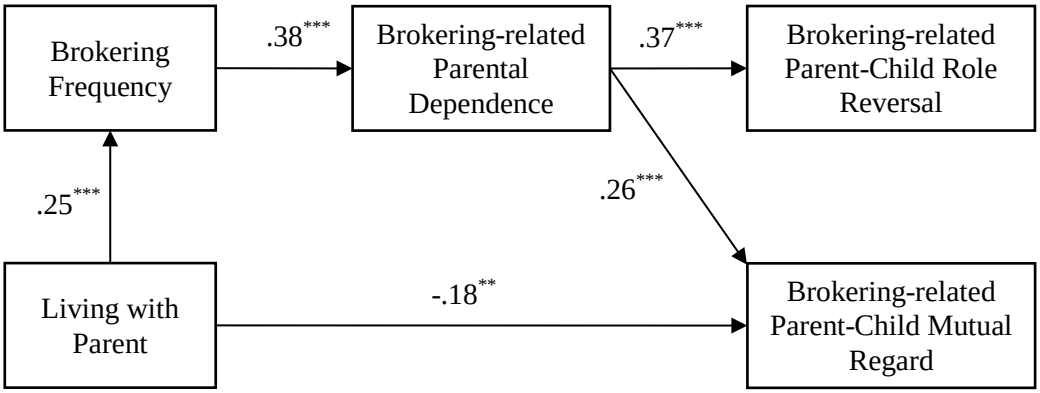

Figure 5. Time 2 mediation model.
All main variables controlled for living status, but only significant paths are shown in the figure. Although not shown in the figure, Time 1 mediator and outcomes were also controlled for. $^{**}p < .01$; $^{***}p < .001$

Table 7. Fit Indices of Moderation Models

	χ^2	*df*	*p*	RMSEA	CFI	SRMR
Time 1						
Moderation Model: monitoring	4.39	2	.11	.07	.98	.02
Moderation Model: psychological control	6.38	2	.04	.09	.97	.02
Moderation Model: warmth	1.19	2	.55	.00	1.00	.01
Time 2						
Moderation Model: monitoring	21.90	17	.19	.04	.99	.04
Moderation Model: psychological control	20.68	17	.24	.03	.99	.04
Moderation Model: warmth	39.61	17	.00	.08	.94	.05

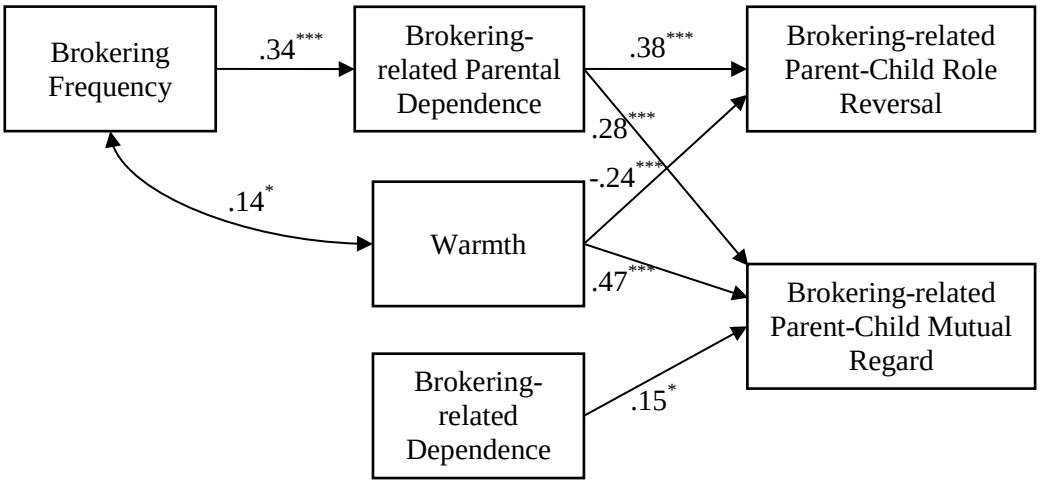

Figure 6. Time 1 moderation model: parenting warmth as a moderator.
*$p < .05$; ***$p < .001$

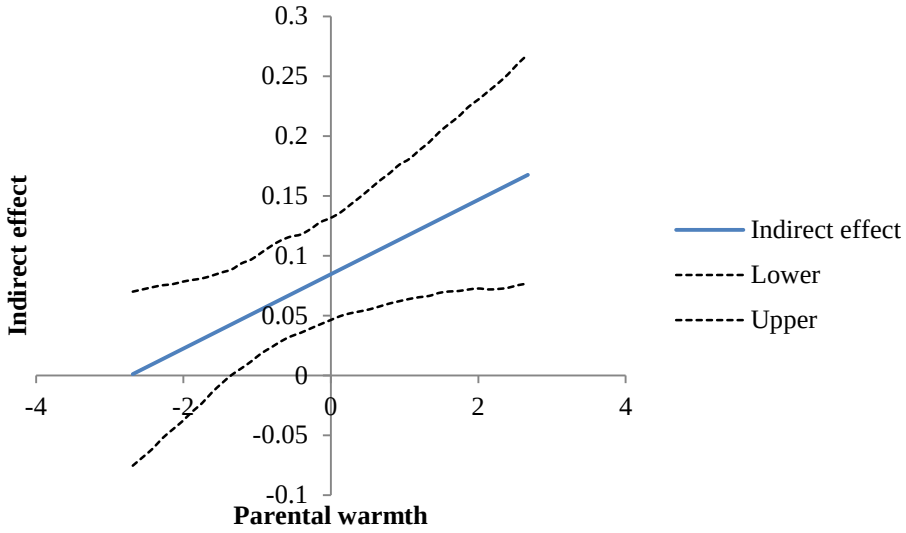

Figure 7. The indirect effect of the path LB frequency --> Brokering-related parental dependence --> Brokering-related p-c mutual regard as a function of parental warmth at Time 1.

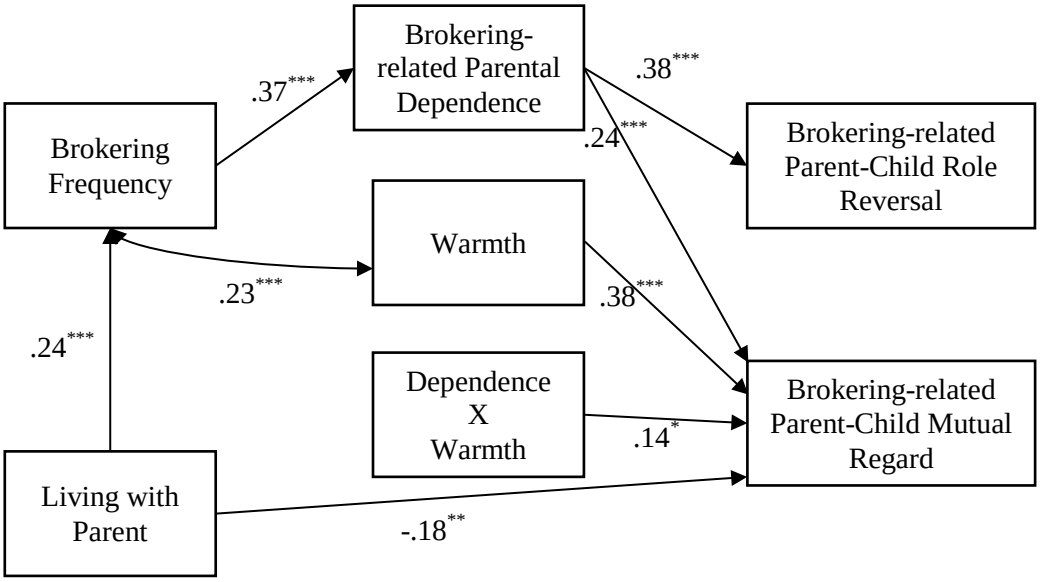

Figure 8. Time 2 moderation model: parenting warmth as a moderator.
All main variables controlled for living status, but only significant paths are shown in the figure. Although not shown in the figure, Time 1 mediator and outcomes were also controlled for. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

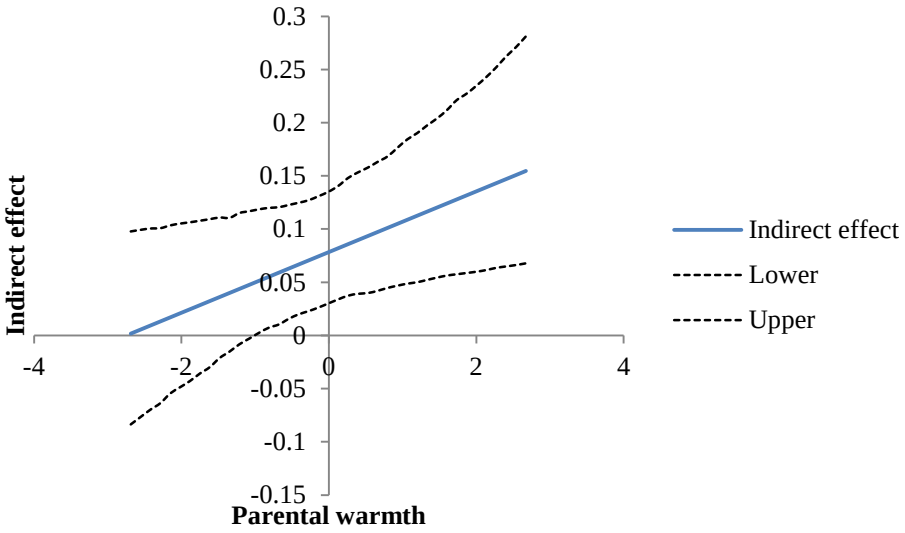

Figure 9. The indirect effect of the path LB frequency --> Brokering-related parental dependence --> Brokering-related parent-child mutual regard as a function of parental warmth at Time 2.

Table 8. A Comparison of 1-class to 5-class solutions for latent profile analysis at Time 1

	1 class	**2 classes**	3 classes	4 classes	5 classes
Loglikelihood	-1478.64	**-1241.60**	-1214.37	-1193.13	-1178.67
BIC	3012.57	**2560.61**	2539.33	2530.02	2534.28
ABIC	2980.87	**2516.23**	2475.93	2447.60	2432.83
Entropy		**.68**	.73	.80	.81
LMR-LRT *p*-value		**.02**	.16	.08	.60
Class distribution (*n*)	252	**153-99**	79-132-41	20-12-111-109	14-12-101-110-15
Class distribution (%)	100	**61-39**	31-52-16	8-5-44-43	6-5-40-44-6

Note: BIC = Bayesian information criterion, ABIC = adjusted Bayesian information criterion, LMR-LRT = Lo-Mendel-Rubin likelihood ratio test.

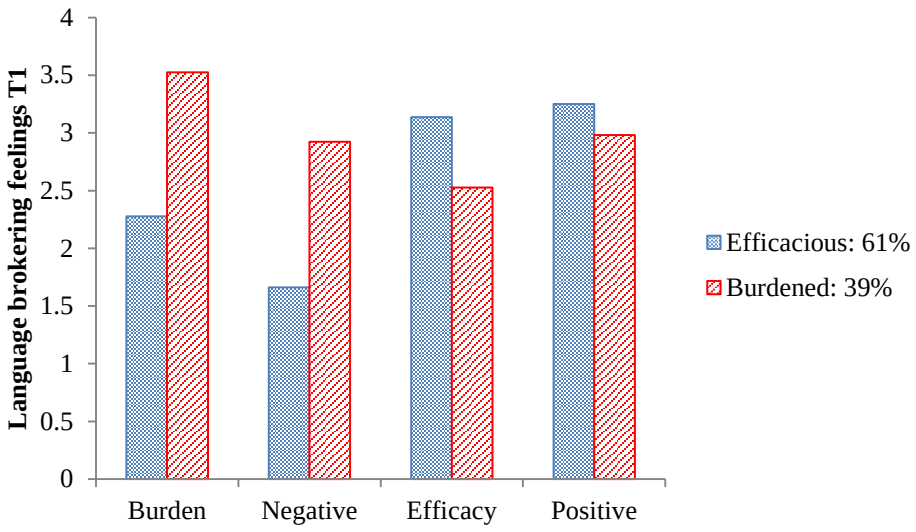

Figure 10. A comparison of efficacious and burdened language brokers at Time 1. Significant differences were found for language brokering burden (ΔM = -1.25, p < .001), negative feelings (ΔM = -1.26, p < .001), brokering efficacy (ΔM = 0.61, p < .001), but the difference was only marginal for positive brokering feelings (ΔM = 0.27, p = .08).

Table 9. Multinomial Logistic Regressions Predicting Class Memberships at Time 1

	Model 1				**Model 2**	
	Efficacious vs Non-brokers		**Burdened vs Non-brokers**		**Efficacious vs Burdened**	
Predictors	OR	CI	OR	CI	OR	CI
Female	1.38	[0.65, 2.89]	1.47	[0.66, 3.27]	0.91	[0.51, 1.61]
Age	1.05	[0.58, 1.88]	1.22	[0.67, 2.20]	0.83	[0.57, 1.20]
Child Chinese	2.52***	[1.48, 4.29]	1.48	[0.86, 2.56]	1.85***	[1.31, 2.62]
Child English	1.52	[0.76, 3.03]	0.80	[0.40, 1.60]	2.09***	[1.36, 3.20]
Child acculturation	0.47	[0.12, 1.88]	0.49	[0.12, 1.99]	0.92	[0.40, 2.11]
Child enculturation	1.16	[0.42, 3.20]	1.05	[0.36, 3.09]	1.04	[0.53, 2.04]
Mother education	0.59***	[0.46, 0.77]	0.63**	[0.47, 0.84]	0.94	[0.78, 1.14]
Mother English	0.48***	[0.33, 0.69]	0.36***	[0.22, 0.60]	1.29	[0.85, 1.95]
Mother acculturation	0.72	[0.27, 1.96]	0.34*	[0.12, 0.99]	2.29*	[1.04, 5.07]
Mother enculturation	2.96*	[1.23, 7.14]	3.11*	[1.25, 7.75]	1.05	[0.53, 2.08]
Brokering frequency	---	---	---	---	0.78	[0.56, 1.09]

Note: $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table 10. Path Analyses of Language Broker Classes Predicting Parent-Child Relationships and Adjustment at Time 1

	Parent-child alienation		Parent-child conflict		Depressive symptoms		Delinquent behaviors		GPA	
	β	CI	β	CI	β	CI	β	CI	β	CI
Direct effects										
Brokering subgroup (Ref: non-brokers)										
Efficacious	.06	[-.11, .22]	-.08	[-.25, .09]	-.17*	[-.31, -.02]	-.12	[-.28, .05]	.09	[-.08, .26]
Burdened	.27***	[.11, .43]	.20*	[.04, .36]	-.06	[-.20, .08]	-.08	[-.25, .08]	.10	[-.07, .26]
P-c relationships										
P-c alienation	---	---	---	---	.46***	[.36, .56]	.24***	[.12, .35]	-.08	[-.20, .05]
P-c conflict	---	---	---	---	.08	[-.03, -.19]	.02	[-.10, .14]	-.10	[-.22, .03]
Covariates										
Female	.14**	[.04, .24]	.06	[-.05, .16]	.05	[-.04, .14]	-.27***	[-.37, -.17]	.24***	[.14, .34]
Age	.01	[-.09, .11]	-.01	[-.11, .09]	.06	[-.03, .15]	.06	[-.04, .16]	.01	[-.10, .11]
C Chinese	-.06	[-.19, .08]	.03	[-.10, .17]	.05	[-.07, .17]	-.02	[-.15, .12]	.10	[-.04, .23]
C English	.02	[-.09, .13]	.06	[-.05, .17]	-.04	[-.14, .05]	.01	[-.10, .12]	.07	[-.04, .19]
C acculturation	.05	[-.08, .17]	.03	[-.09, .15]	-.15**	[-.25, -.04]	.02	[-.10, .14]	.14*	[.01, .26]
C enculturation	-.03	[-.17, .10]	-.03	[-.16, .11]	.08	[-.04, .19]	-.06	[-.19, .07]	-.13	[-.27, .00]
M education	.10	[-.03, .23]	.03	[-.10, .16]	-.06	[-.18, .06]	.01	[-.12, .15]	.07	[-.07, .21]
M English	-.08	[-.24, .08]	-.15	[-.31, .01]	-.01	[-.15, .13]	-.01	[-.18, .15]	.13	[-.03, .29]
M acculturation	-.12	[-.24, .00]	-.07	[-.19, .06]	.08	[-.04, .19]	-.04	[-.16, .08]	-.04	[-.17, .09]
M enculturation	.14*	[.02, .26]	.10	[-.02, .22]	-.01	[-.12, .10]	.05	[-.07, .17]	.09	[-.03, .22]
Indirect effects										
Efficacious→Alienation→Adjustment					.03	[-.05, .10]	.01	[-.03, .05]	-.00	[-.02, .01]
Efficacious→Conflict→Adjustment					-.01	[-.02, .01]	-.00	[-.01, .01]	.01	[-.01, .03]
Burdened→Alienation→Adjustment					.12**	[.05, .20]	.06*	[.01, .11]	-.02	[-.06, .01]
Burdened→Conflict→Adjustment					.02	[-.01, .04]	.00	[-.02, .03]	-.02	[-.05, .01]

Note: Ref = reference group; P-c = parent-child; C = child; M = mother. *$p < .05$; **$p < .01$; ***$p < .001$

Table 11. Path Analyses of Language Broker Classes Predicting Parent-Child Relationships and Adjustment at Time 1 (Efficacious versus Burdened)

	Parent-child alienation		Parent-child conflict		Depressive symptoms		Delinquent behaviors		GPA	
	β	CI	β	CI	β	CI	β	CI	β	CI
Direct effects										
Brokering subgroup (Ref: burdened)										
Efficacious	-.25***	[-.37, -.12]	-.28***	[-.40, -.16]	-.11	[-.23, .00]	-.04	[-.18, .09]	.02	[-.12, .16]
P-c relationships										
P-c alienation	---	---	---	---	.47***	[.36, .58]	.21**	[.07, .35]	-.10	[-.25, .05]
P-c conflict	---	---	---	---	.07	[-.06, .19]	-.01	[-.15, .14]	-.05	[-.19, .11]
Covariates										
Female	.12*	[.00, .24]	.09	[-.03, .21]	.06	[-.05, .16]	-.22***	[-.33, -.10]	.23***	[.10, .35]
Age	.00	[-.12, .12]	-.02	[-.14, .10]	-.02	[-.13, .08]	.03	[-.09, .15]	.02	[-.11, .14]
C Chinese	-.08	[-.22, .06]	-.03	[-.16, .11]	.09	[-.03, .21]	-.03	[-.17, .10]	.07	[-.08, .21]
C English	.07	[-.06, .20]	.06	[-.06, .19]	-.01	[-.12, .10]	.01	[-.12, .14]	.01	[-.13, .15]
C acculturation	.01	[-.14, .16]	.07	[-.08, .22]	-.19**	[-.31, -.06]	.06	[-.09, .20]	.10	[-.06, .26]
C enculturation	-.01	[-.16, .15]	-.05	[-.20, .11]	.06	[-.08, .19]	-.05	[-.20, .11]	-.02	[-.18, .15]
M education	.10	[-.03, .23]	.02	[-.11, .15]	-.05	[-.16, .07]	.02	[-.11, .15]	.06	[-.08, .20]
M English	-.10	[-.24, .05]	-.03	[-.17, .11]	.07	[-.05, .20]	.09	[-.06, .24]	-.07	[-.22, .08]
M acculturation	-.08	[-.21, .06]	-.03	[-.16, .10]	.03	[-.09, .15]	-.08	[-.22, .06]	-.04	[-.18, .10]
M enculturation	.10	[-.03, .23]	.04	[-.09, .17]	.00	[-.12, .12]	.08	[-.06, .21]	.07	[-.07, .21]
Frequency	-.04	[-.17, .08]	.13*	[.01, .25]	.12*	[.02, .23]	.10	[-.03, .23]	-.04	[-.17, .09]
Indirect effects										
Efficacious→Alienation→Adjustment					-.12***	[-.18, -.05]	-.05*	[-0.10, -.01]	.03	[-.01, .06]
Efficacious→Conflict→Adjustment					-.02	[-.05, .02]	.00	[-0.04, .04]	.01	[-.03, .06]

Note: Ref = reference group; P-c = parent-child; C = child; M = mother. * $p < .05$; ** $p < .01$; *** $p < .001$

Table 12. A Comparison of 1-class to 5-class solutions for Time 2 latent profile analysis

	1 class	**2 classes**	3 classes	4 classes	5 classes
Loglikelihood	-1498.36	**-1239.13**	-1205.19	-1187.10	-1162.56
BIC	3051.98	**2555.61**	2520.89	2517.87	2501.94
ABIC	3020.27	**2511.23**	2457.49	2435.45	2400.49
Entropy		**.77**	.86	.78	.81
LMR-LRT *p*-value		**.00**	.02	.35	.17
Class distribution (*n*)	251	**139-112**	103-129-19	72-54-19-106	44-56-61-76-14
Class distribution (%)		**55-45**	41-51-8	29-22-8-42	18-22-24-30-6

Note: BIC = Bayesian information criterion, ABIC = adjusted Bayesian information criterion, LMR-LRT = Lo-Mendel-Rubin likelihood ratio test.

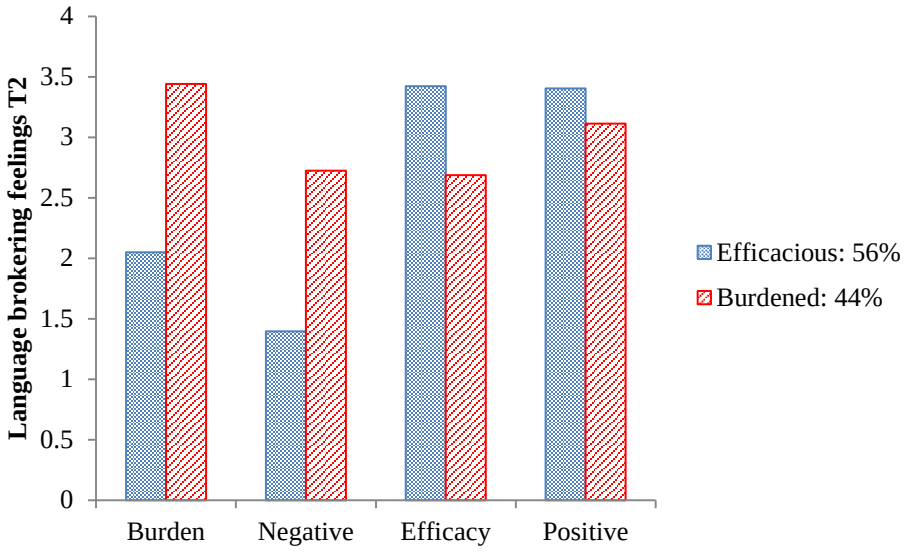

Figure 11. A comparison of efficacious and burdened language brokers at Time 2. Significant differences were found for language brokering burden (ΔM = -1.39, p < .001), negative feelings (ΔM = -1.33, p < .001), brokering efficacy (ΔM = 0.74, p < .001), and for positive brokering feelings (ΔM = 0.29, p = .02).

Table 13. Cross-tabulation of Time 1 and Time 2 Language Broker Class Memberships

	Time 2			
Time 1	Efficacious	Burdened	Non-brokers	Missing
Efficacious	84 (21.3%)	34 (8.6%)	8 (2.0%)	27 (6.9%)
Burdened	28 (7.1%)	51 (12.9%)	4 (1.0%)	16 (4.1%)
Non-brokers	11 (2.8%)	8 (2.0%)	63 (16.0%)	16 (4.1%)
Missing	16 (4.1%)	19 (4.8%)	9 (2.3%)	---

Table 14. Path Analyses of Longitudinal Language Broker Classes Predicting Parent-Child Relationships and Adjustment at Time 2

	Parent-child alienation		Parent-child conflict		Depressive symptoms		Delinquent behaviors		Grades	
	β	CI	β	CI	β	CI	β	CI	β	CI
Direct effects										
Brokering subgroup (Ref: non-brokers)										
Effic_effic	.04	[-.14, .22]	-.07	[-.26, .12]	-.07	[-.25, .11]	-.04	[-.23, .14]	-.07	[-.29, .14]
Burden_burden	.29***	[.13, .45]	.13	[-.04, .30]	.02	[-.15, .18]	.04	[-.13, .21]	.02	[-.18, .21]
Effic_burden	.24***	[.10, .38]	.07	[-.08, .22]	-.03	[-.18, .11]	.14	[-.01, .30]	.04	[-.14, .20]
Burden_effic	.16*	[.02, .29]	.06	[-.09, .20]	-.09	[-.23, .05]	-.09	[-.23, .06]	-.11	[-.28, .05]
Other	.11	[-.02, .23]	.06	[-.08, .19]	-.06	[-.19, .06]	.05	[-.08, .18]	.07	[-.08, .22]
Brokering subgroup (Ref: burden_burden)										
Effic_effic	-.31***	[-.44, -.17]	-.23**	[-.37, -.08]	-.10	[-.24, .05]	-.09	[-.24, .06]	-.09	[-.26, .07]
Effic_burden	.00	[-.12, .11]	-.04	[-.16, .08]	-.05	[-.17, .07]	.11	[-.01, .23]	.02	[-.11, .15]
Burden_effic	-.07	[-.18, .04]	-.04	[-.16, .07]	-.11	[-.22, .01]	-.12*	[-.23, .00]	-.12	[-.25, .01]
Other	-.13*	[-.25, -.01]	-.05	[-.18, .08]	-.08	[-.20, .05]	.02	[-.11, .14]	.06	[-.09, .20]
Brokering subgroup (Ref: effic_effic)										
Effic_burden	.22***	[.11, .32]	.12*	[.01, .23]	.02	[-.09, .13]	.18**	[.06, .29]	.09	[-.04, .21]
Burden_effic	.13*	[.03, .23]	.10	[-.01, .21]	-.04	[-.15, .06]	-.06	[-.16, .05]	-.06	[-.18, .06]
Other	.08	[-.03, .19]	.10	[-.01, .22]	-.01	[-.13, .10]	.08	[-.04, .20]	.12	[-.01, .25]
Brokering subgroup (Ref: effic_burden)										
Burden_effic	-.07	[-.19, .05]	-.01	[-.14, .12]	-.06	[-.18, .06]	-.22***	[-.34, -.09]	-.14*	[-.28, -.01]
Other	-.13*	[-.25, .00]	-.01	[-.15, .12]	-.03	[-.16, .10]	-.09	[-.22, .05]	.04	[-.12, .19]

Table 14 (continued).

	Parent-child alienation		Parent-child conflict		Depressive symptoms		Delinquent behaviors		Grades	
	β	CI	β	CI	β	CI	β	CI	β	CI
P-c relationships										
P-c alienation	---	---	---	---	.24***	[.12, .37]	-.02	[-.14, .11]	-.14*	[-.28, .00]
P-c conflict	---	---	---	---	.10	[-.02, .22]	.17**	[.05, .29]	-.02	[-.15, .11]
Covariates										
Female	.02	[-.07, .12]	-.02	[-.11, .08]	.13**	[.03, .22]	-.17***	[-.27, -.07]	.05	[-.06, .17]
Age	-.09	[-.18, .01]	.01	[-.09, .11]	-.04	[-.14, .05]	.04	[-.06, .14]	-.05	[-.16, .06]
C Chinese	.00	[-.13, .13]	.08	[-.06, .22]	.02	[-.12, .15]	-.07	[-.21, .07]	.06	[-.10, .21]
C English	.10*	[.00, .20]	.08	[-.02, .19]	-.09	[-.19, .01]	-.04	[-.14, .07]	.12	[.00, .23]
C acculturation	-.19***	[-.30, -.08]	-.08	[-.20, .04]	-.12	[-.23, .00]	-.17**	[-.29, -.05]	.02	[-.13, .16]
C enculturation	.04	[-.09, .17]	.00	[-.13, .13]	.14*	[.01, .27]	.22***	[.09, .35]	-.06	[-.20, .09]
C living w parents	.13**	[.03, .22]	.15**	[.05, .25]	-.01	[-.11, .09]	.05	[-.05, .15]	-.05	[-.17, .07]
M education	.11	[-.01, .24]	-.02	[-.15, .12]	-.05	[-.18, .08]	-.10	[-.23, .03]	.06	[-.08, .21]
M English	.10	[-.06, .25]	.00	[-.16, .16]	.05	[-.11, .21]	.30***	[.14, .46]	-.09	[-.27, .09]
M acculturation	-.01	[-.12, .11]	-.02	[-.13, .10]	.15*	[.03, .26]	-.01	[-.13, .11]	-.02	[-.15, .11]
M enculturation	.00	[-.12, .11]	.07	[-.05, .18]	-.04	[-.15, .08]	.08	[-.04, .20]	-.04	[-.17, .09]
Adjustment T1	.44***	[.35, .53]	.42***	[.33, .51]	.33***	[.23, .43]	.37***	[.27, .47]	.38***	[.26, .50]

Note: Ref = reference group; Effic_effic = efficacious at Times 1 and 2; Burden_burden = burdened at Times 1 and 2; Burden_effic = burdened at Time 1 and efficacious at Time 2; Effic_burden = efficacious at Time 1 and burdened at Time 2; P-c = parent-child; C = child; M = mother. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Table 15. Indirect Effects of Longitudinal Language Broker Classes on Adjustment at Time 2 through Parent-child Relationships

	Depressive symptoms		Delinquent behaviors		Grades	
	β	CI	β	CI	β	CI
Indirect effects						
Brokering subgroup (Ref: non-brokers)						
Effic_effic→Alienation→Adjustment	.01	[-.03, .05]	.00	[-.01, .01]	-.01	[-.03, .02]
Effic_effic→Conflict→Adjustment	-.01	[-.03, .01]	-.01	[-.04, .02]	.00	[-.01, .01]
Burden_burden→Alienation→Adjustment	.07**	[.02, .12]	-.01	[-.04, .03]	-.04	[-.09, .01]
Burden_burden→Conflict→Adjustment	.01	[-.01, .04]	.02	[-.01, .05]	.00	[-.02, .02]
Effic_burden→Alienation→Adjustment	.06*	[.01, .11]	.00	[-.03, .03]	-.03	[-.07, .01]
Effic_burden→Conflict→Adjustment	.01	[-.01, .02]	.01	[-.01, .04]	.00	[-.01, .01]
Burden_effic→Alienation→Adjustment	.04	[.00, .08]	.00	[-.02, .02]	-.02	[-.05, .01]
Burden_effic→Conflict→Adjustment	.01	[-.01, .02]	.01	[-.02, .04]	.00	[-.01, .01]
Brokering subgroup (Ref: burden_burden)						
Effic_effic→Alienation→Adjustment	-.08**	[-.13, -.02]	.01	[-.03, .04]	.04	[.00, .09]
Effic_effic→Conflict→Adjustment	-.02	[-.05, .01]	-.04*	[-.07, .00]	.01	[-.03, .04]
Effic_burden→Alienation→Adjustment	.00	[-.03, .03]	.00	[.00, .00]	.00	[-.02, .02]
Effic_burden→Conflict→Adjustment	.00	[-.02, .01]	-.01	[-.03, .02]	.00	[-.01, .01]
Burden_effic→Alienation→Adjustment	-.02	[-.05, .01]	.00	[-.01, .01]	.01	[-.01, .03]
Burden_effic→Conflict→Adjustment	.00	[-.02, .01]	-.01	[-.03, .01]	.00	[-.01, .01]
Brokering subgroup (Ref: effic_effic)						
Effic_burden→Alienation→Adjustment	.05**	[.02, .09]	.00	[-.03, .02]	-.03	[-.06, .00]
Effic_burden→Conflict→Adjustment	.01	[-.01, .03]	.02	[.00, .04]	.00	[-.02, .01]
Burden_effic→Alienation→Adjustment	.03*	[.00, .06]	.00	[-.02, .01]	-.02	[-.04, .01]
Burden_effic→Conflict→Adjustment	.01	[-.01, .03]	.02	[-.01, .04]	.00	[-.02, .01]
Brokering subgroup (Ref: effic_burden)						
Burden_effic→Alienation→Adjustment	-.02	[-.05, .01]	.00	[-.01, .01]	.01	[-.01, .03]
Burden_effic→Conflict→Adjustment	.00	[-.01, .01]	.00	[-.02, .02]	.00	[.00, .00]

Note: Ref = reference group; Effic_effic = efficacious at Times 1 and 2; Burden_burden = burdened at Times 1 and 2; Burden_effic = burdened at Time 1 and efficacious at Time 2; Effic_burden = efficacious at Time 1 and burdened at Time 2. $^{*}p < .05$; $^{**}p < .01$

Appendices

APPENDIX 1

Brokering-Related Parent-Child Relationships (Kim, et al., 2014)

Parental Dependence

1. My parent has come to depend on me to translate for him/her
2. It is my obligation to translate for my parent
3. My parent doesn't need to learn English because I translate for him/her
4. My parent has no one else to turn to but me to help translate for him/her

Parent-Child Role Reversal

1. I do not have respect for my parent because I translate for him/her
2. I have a poor relationship with my parent because I translate for him/her
3. My parent is powerless when s/he asks me to translate
4. My parent should think less of him/herself when s/he asks me to translate
5. My parent is unfit to be my parent when s/he asks me to translate
6. My parent and I get into arguments because I translate for him/her
7. I feel more knowledgeable than my parent because I translate for him/her

Parent-Child Mutual Regard

1. My parent values my opinion because I translate for him/her
2. I value my parent's opinion because I translate for him/her
3. My parent praises me (thinks highly of me) because I translate for him/her

APPENDIX 2

Parenting Practices

Monitoring (Conger, et al., 1995; Ge, et al., 1996)

1. During the day, does your parent know where you are and what you are doing?
2. Does your parent know who you are with when you are away from home (*out during the day*)[1]?
3. Does your parent know if you came home or if you were in bed by the set time (*when you go home or go to sleep*)[1]?

Psychological Control (Barber, 1996)

1. Changes the subject whenever I have something to say
2. Interrupts me
3. Blames me for other family members' problems
4. Brings up past mistakes when s/he criticizes me
5. If I have hurt his/her feelings, my parent stops talking to me until I please him/her again
6. Avoids looking at me when I disappoint him/her
7. Is less friendly with me if I do not see things his/her way
8. Is always trying to change me

Warmth (Conger, et al., 1995; Ge, et al., 1996)

1. Act loving, affectionate, and caring towards you

[1] Item wording was changed at T2. See italicized text in the parenthesis.

2. Let you know that s/he appreciates you, your ideas, or the things you do

3. Help you do something that was important to you

4. Listen carefully to your point-of-view (what you think)

5. Let you know s/he really cares about you

6. Ask you for your opinion about an important matter

7. Have a good laugh with you about something that was funny

8. Act supportive and understanding toward you

APPENDIX 3

Language Brokering Feelings (Kim, et al., 2014)

Positive Feelings

1. Translating makes me feel independent and mature
2. I feel useful when I translate
3. I feel competent and capable when I translate for my parent

Negative Feelings

1. I feel helpless when my parent asks me to translate
2. I feel miserable when my parent asks me to translate
3. I feel hopeless because my parent asks me to translate
4. I feel uneasy when my parent asks me to translate
5. I am embarrassed to translate when my parent asks me to
6. I have disappointed my parent by translating poorly

Brokering Efficacy

1. I am good at translating
2. I am skilled at translating
3. I am effective at translating

Brokering Burden

1. It is stressful to translate
2. Translating is a burden
3. Translating takes time away from other things I want to do

4. I feel pressure to translate for my parent

APPENDIX 4

Cultural Orientations (Ryder, et al., 2000)

American Cultural Orientations

1. I often follow mainstream American cultural traditions (e.g., celebrate holidays)
2. I am willing to marry an American person
3. I enjoy social activities with Americans
4. I am comfortable working with Americans
5. I enjoy American entertainment (e.g., movies, music)
6. I often behave in ways that are typical of the American culture
7. It is important for me to maintain or develop mainstream American cultural practices
8. I believe in mainstream American values
9. I enjoy typical American jokes and humor
10. I am interested in having American friends

Chinese Cultural Orientations

1. I often follow Chinese cultural traditions
2. I am willing to marry a Chinese person
3. I enjoy social activities with Chinese people
4. I am comfortable working with Chinese people
5. I enjoy Chinese entertainment (e.g., movies, music)
6. I often behave in ways that are typical of the Chinese culture

7. It is important for me to maintain or develop Chinese cultural practices
8. I believe in Chinese cultural values
9. I enjoy typical Chinese jokes and humor
10. I am interested in having Chinese friends

APPENDIX 5

General Parent-Child Relationships

Alienation (Armsden & Greenberg, 1987)

1. I have to rely on myself when I have a problem to solve
2. I get upset easily with my parents
3. I get upset a lot more than my parents know about
4. My parents have their own problems, so I don't bother them with mine
5. I feel angry with my parents
6. I don't get much attention from my parents
7. I don't know whom I can depend on these days
8. My parents don't understand what I'm going through these days

Conflict (Lee, et al., 2000)

1. Your parent tells you what to do with your life, but you want to make your own decisions
2. Your parent tells you that a social life is not important at this age, but you think that it is
3. You have done well in school, but your parent always wants you to do even better
4. Your parent wants you to sacrifice personal interests (give up things you want to do) for the sake of the family, but you feel this is unfair
5. Your parent always compares you to others, but you want them to accept you for being yourself

6. Your parent says that they show you love by housing, feeding, and educating you, but you wish they would show more physical and verbal signs of affection (e.g., hugging you, saying s/he loves you)

7. Your parent does not want you to bring shame upon the family, but you feel that your parent is too concerned with saving face (looking good in front of others)

8. Your parent expects you to behave like a proper Chinese male or female, but you feel your parent is being too traditional

9. You want to state your opinion, but your parent considers it to be disrespectful to talk back at them

10. Your parent demands that you always show respect for elders, but you believe in showing respect only if they deserve it

APPENDIX 6

Adjustment

Depressive Symptoms (Radloff, 1977)

1. I was bothered by things that usually do not bother me

2. I did not feel like eating; my appetite was poor

3. I felt that I could not shake off the blues (feeling down or bad) even with help from my family or friends

4. I felt that I was just as good as other people[2]

5. I had trouble keeping my mind focused on what I was doing

6. I felt depressed

7. I felt that everything I did was an effort (hard to do)

8. I felt hopeful about the future[2]

9. I thought my life had been a failure

10. I felt fearful

11. My sleep was restless (could not sleep well)

12. I was happy[2]

13. I talked less than usual

14. I felt lonely

15. People were unfriendly

16. I enjoyed life[2]

[2] This item was reverse coded.

17. I had crying spells; I cried

18. I felt sad

19. I felt that people disliked me

20. I could not get "going" (get myself to do things)

Delinquency (Achenbach, 2001; Le & Stockdale, 2005)

1. I hang around with kids (*people*)[3] who get in trouble

2. I use drugs (*drugs other than alcohol and nicotine*)[3] for nonmedical purposes

3. I lie or cheat

4. I steal from places other than home (*I steal*)[3]

5. I drink alcohol without my parents' approval (*I drink too much alcohol or get drunk*)[3]

6. I break rules at home, school, or elsewhere (*at work or elsewhere*)[3]

7. I (*illegally*)[3] copy computer software

8. I play violent video games

9. I am in a gang

[3] Item wording was changed at T2. See italicized text in the parenthesis.

References

Achenbach, T. M. (2001). *Manual for the youth self-report and 2001 profile*. Burlington, VT: University of Vermont.

Armsden, G. C., & Greenberg, M. T. (1987). The Inventory of Parent and Peer Attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence, 16*, 427-454. doi: 10.1007/bf02202939

Ashforth, B. E. (2001). *Role transitions in organizational life: An identity-based perspective*. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers.

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*, 3296-3319. doi: 10.2307/1131780

Barnett, B., & Parker, G. (1998). The parentified child: Early competence or childhood deprivation? *Child Psychology & Psychiatry Review, 3*, 146-155. doi: 10.1017/s1360641798001695

Buriel, R., Love, J. A., & Villanueva, C. M. (2011). Language brokering in Latino immigrant families: Developmental challenges, stressors, familial supports, and adjustment. In N. J. Cabrera, F. A. Villarruel & H. E. Fitzgerald (Eds.), *Latina and Latino Children's Mental Health* (Vol. 1, pp. 91-116). Santa Barbara, CA: ABC-CLIO, LLC.

Burton, L. (2007). Childhood adultification in economically disadvantaged families: A conceptual model. *Family Relations: An Interdisciplinary Journal of Applied Family Studies, 56*, 329-345. doi: 10.1111/j.1741-3729.2007.00463.x

Campione-Barr, N., Lindell, A. K., Greer, K. B., & Rose, A. J. (2014). Relational aggression and psychological control in the sibling relationship: Mediators of the

association between maternal psychological control and adolescents' emotional adjustment. *Development and Psychopathology, 26*, 749-758. doi: 10.1017/s0954579414000364

Chan, D. (2009). So why ask me? Are self-report data really that bad? *Statistical and methodological myths and urban legends: Doctrine, verity and fable in the organizational and social sciences* (pp. 309-336). New York, NY, US: Routledge/Taylor & Francis Group.

Chao, R. K. (2006). The prevalence and consequences of adolescents' language brokering for their immigrant parents. In M. H. Bornstein & L. R. Cote (Eds.), *Acculturation and parent–child relationships: Measurement and development* (pp. 271-296). Mahwah, NJ: Lawrence Erlbaum Associates.

Chao, R. K., & Tseng, V. (2002). Parenting of Asians. In M. H. Bornstein (Ed.), *Handbook of parenting: Vol. 4. Social conditions and applied parenting* (2nd ed., pp. 59-93). Mahwah, NJ: Lawrence Erlbaum Associates.

Chee, L. P., Goh, E. C. L., & Kuczynski, L. (2014). Oversized loads: Child parentification in low-income families and underlying parent-child dynamics. *Families in Society, 95*, 204-212. doi: 10.1606/1044-3894.2014.95.26

Collins, W. A., & Steinberg, L. (2006). Adolescent development in interpersonal context. In N. Eisenberg, W. Damon & R. M. Lerner (Eds.), *Handbook of child psychology: Vol. 3, Social, emotional, and personality development (6th ed.).* (pp. 1003-1067). Hoboken, NJ, US: John Wiley & Sons Inc.

Conger, R. D., & Donnellan, M. B. (2007). An interactionist perspective on the socioeconomic context of human development. *Annual Review of Psychology, 58*, 175-199. doi: 10.1146/annurev.psych.58.110405.085551

Conger, R. D., Ge, X., Elder, G. H., Lorenz, F. O., & Simons, R. L. (1994). Economic stress, coercive family process, and developmental problems of adolescents. *Child Development, 65*, 541-561. doi: 10.2307/1131401

Conger, R. D., Patterson, G. R., & Ge, X. (1995). It takes two to replicate: A mediational model for the impact of parents' stress on adolescent adjustment. *Child Development, 66*, 80-97. doi: 10.2307/1131192

Criss, M. M., Lee, T. K., Morris, A. S., Cui, L., Bosler, C. D., Shreffler, K. M., & Silk, J. S. (2015). Link between monitoring behavior and adolescent adjustment: An analysis of direct and indirect effects. *Journal of Child and Family Studies, 24*, 668-678. doi: 10.1007/s10826-013-9877-0

Cui, L., Morris, A. S., Criss, M. M., Houltberg, B. J., & Silk, J. S. (2014). Parental psychological control and adolescent adjustment: The role of adolescent emotion regulation. *Parenting: Science and Practice, 14*, 47-67. doi: 10.1080/15295192.2014.880018

Cummins, J. (1976). The influence of bilingualism on cognitive growth: A synthesis of research findings and explanatory hypotheses. Working Papers on Bilingualism, No. 9.

DeMent, T. L., Buriel, R., & Villanueva, C. M. (2005). Children as language brokers: A narrative of the recollections of college students. In R. Hoosain & F. Salili (Eds.), *Language in multicultural education* (pp. 255-272). Greenwich, CT: Information Age.

Dorner, L. M., Orellana, M. F., & Jiménez, R. (2008). “It's one of those things that you do to help the family”: Language brokering and the development of immigrant

adolescents. *Journal of Adolescent Research, 23*, 515-543. doi: 10.1177/0743558408317563

Dorner, L. M., Orellana, M. F., & Li-Grining, C. P. (2007). 'I helped my Mom,' and it helped me: Translating the skills of language brokers into improved standardized test scores. *American Journal of Education, 113*, 451-478. doi: 10.1086/512740

Earley, L., & Cushway, D. (2002). The parentified child. *Clinical Child Psychology and Psychiatry, 7*, 163-178. doi: 10.1177/1359104502007002005

Elder, G. H., Jr. (1999). *Children of the Great Depression: Social change in life experience (25th anniversary ed.)*. Boulder, CO, US: Westview Press.

Enders, C. K. (2001). The performance of the full information maximum likelihood estimator in multiple regression models with missing data. *Educational and Psychological Measurement, 61*, 713-740. doi: 10.1177/0013164401615001

Fingerman, K. L., Sechrist, J., & Birditt, K. (2013). Changing views on intergenerational ties. *Gerontology, 59*, 64-70. doi: 10.1159/000342211

Fuligni, A. J. (2001). A comparative longitudinal approach to acculturation among children from immigrant families. *Harvard Educational Review, 71*, 566-578. doi: 10.17763/haer.71.3.j7046h63234441u3

Garcia Coll, C., Lamberty, G., Jenkins, R., McAdoo, H. P., Crnic, K., Wasik, B. H., & Garcia, H. V. (1996). An integrative model for the study of developmental competencies in minority children. *Child Development, 67*, 1891-1914. doi: 10.2307/1131600

Ge, X., Best, K. M., Conger, R. D., & Simons, R. L. (1996). Parenting behaviors and the occurrence and co-occurrence of adolescent depressive symptoms and conduct

problems. *Developmental Psychology, 32*, 717-731. doi: 10.1037/0012-1649.32.4.717

Guan, S.-S. A., Greenfield, P. M., & Orellana, M. F. (2014). Translating into understanding: Language brokering and prosocial development in emerging adults from immigrant families. *Journal of Adolescent Research, 29*, 331-355. doi: 10.1177/0743558413520223

Guan, S.-S. A., & Shen, J. (2015). Language Brokering and Parental Praise and Criticism Among Young Adults from Immigrant Families. *Journal of Child and Family Studies, 24*, 1334-1342. doi: 10.1007/s10826-014-9940-5

Halgunseth, L. (2003). Language brokering: Positive developmental outcomes. *Points & counterpoints: Controversial relationship and family issues in the 21st century (an anthology)*. (pp. 154-156). Los Angeles, CA: Roxbury Publishing Co.

Hosmer, D. W., & Lemeshow, S. (2000). Introduction to the logistic regression model *Applied logistic regression* (2nd ed., pp. 1-30). Hoboken, NJ: John Wiley & Sons, Inc.

Hua, J., & Costigan, C. (2012). The familial context of adolescent language brokering within immigrant Chinese families in Canada. *Journal of Youth and Adolescence*1-13. doi: 10.1007/s10964-011-9682-2

Johnson, P. O., & Neyman, J. (1936). Tests of certain linear hypotheses and their application to some educational problems. *Statistical Research Memoirs, 1*, 57-93.

Jones, C. J., Trickett, E. J., & Birman, D. (2012). Determinants and consequences of child culture brokering in families from the former Soviet Union. *American Journal of Community Psychology, 50*, 182-196. doi: 10.1007/s10464-012-9488-8

Kam, J. A. (2011). The effects of language brokering frequency and feelings on Mexican-heritage youth's mental health and risky behaviors. *Journal of Communication, 61*, 455-475. doi: 10.1111/j.1460-2466.2011.01552.x

Kam, J. A., & Lazarevic, V. (2014a). Communicating for one's family: An interdisciplinary review of language and cultural brokering in immigrant families. In E. L. Cohen (Ed.), *Communication Yearbook 38* (pp. 3-38): Routledge.

Kam, J. A., & Lazarevic, V. (2014b). The stressful (and not so stressful) nature of language brokering: Identifying when brokering functions as a cultural stressor for Latino immigrant children in early adolescence. *Journal of Youth and Adolescence, 43*, 1994-2011. doi: 10.1007/s10964-013-0061-z

Katz, V. S. (2014). *Kids in the middle: How children of immigrants negotiate community interactions for their families.* New Brunswick: Rutgers University Press.

Kavanaugh, M. S., Stamatopoulos, V., Cohen, D., & Zhang, L. (2016). Unacknowledged caregivers: A scoping review of research on caregiving youth in the United States. *Adolescent Research Review, 1*, 29-49. doi: 10.1007/s40894-015-0015-7

Kim, S. Y., & Chao, R. K. (2009). Heritage language fluency, ethnic identity, and school effort of immigrant Chinese and Mexico adolescents. *Cultural Diversity and Ethnic Minority Psychology, 15*, 27-37. doi: 10.1037/a0013052

Kim, S. Y., & Ge, X. (2000). Parenting practices and adolescent depressive symptoms in Chinese American families. *Journal of Family Psychology, 14*, 420-435. doi: 10.1037/0893-3200.14.3.420

Kim, S. Y., Wang, Y., Weaver, S. R., Shen, Y., Wu-Seibold, N., & Liu, C. H. (2014). Measurement equivalence of the language-brokering scale for Chinese American

adolescents and their parents. *Journal of Family Psychology, 28*, 180-192. doi: 10.1037/a0036030

Kwon, H. (2014). The hidden injury of class in Korean-American language brokers' lives. *Childhood: A Global Journal of Child Research, 21*, 56-71. doi: 10.1177/0907568213483597

Le, T. N., & Stockdale, G. D. (2005). Individualism, collectivism, and delinquency in Asian American adolescents. *Journal of Clinical Child and Adolescent Psychology, 34*, 681-691. doi: 10.1207/s15374424jccp3404_10

Lee, R. M., Choe, J., Kim, G., & Ngo, V. (2000). Construction of the Asian American Family Conflicts Scale. *Journal of Counseling Psychology, 47*, 211-222. doi: 10.1037/0022-0167.47.2.211

Love, J. A., & Buriel, R. (2007). Language brokering, autonomy, parent-child bonding, biculturalism, and depression: A study of Mexican American adolescents from immigrant families. *Hispanic Journal of Behavioral Sciences, 29*, 472-491. doi: 10.1177/0739986307307229

Maccoby, E. E., & Martin, J. A. (1983). Socialization in the context of the family: Parent-child interaction. In E. M. Hetherington (Ed.), *Handbook of child psychology: Vol. 4. Socialization, personality, and social development* (4th ed., pp. 1-101). New York, NY: Wiley.

Martinez, C. R., Jr., McClure, H. H., & Eddy, J. M. (2009). Language brokering contexts and behavioral and emotional adjustment among Latino parents and adolescents. *The Journal of Early Adolescence, 29*, 71-98. doi: 10.1177/0272431608324477

McQuillan, J., & Tse, L. (1995). Child language brokering in linguistic minority communities: Effects on cultural interaction, cognition, and literacy. *Language and Education, 9*, 195-215. doi: 10.1080/09500789509541413

Mistry, R. S., Biesanz, J. C., Chien, N., Howes, C., & Benner, A. D. (2008). Socioeconomic status, parental investments, and the cognitive and behavioral outcomes of low-income children from immigrant and native households. *Early Childhood Research Quarterly, 23*, 193-212.

Morales, A., & Hanson, W. E. (2005). Language brokering: An integrative review of the literature. *Hispanic Journal of Behavioral Sciences, 27*, 471-503. doi: 10.1177/0739986305281333

Muthén, L. K., & Muthén, B. O. (1998-2015). *Mplus user's guide.* (7.3 ed.). Los Angeles, CA: Muthén & Muthén.

Orellana, M. F., Dorner, L., & Pulido, L. (2003). Accessing assets: Immigrant youth's work as family translators or "para-phrasers". *Social Problems, 50*, 505-524. doi: 10.1525/sp.2003.50.4.505

Oznobishin, O., & Kurman, J. (2009). Parent–child role reversal and psychological adjustment among immigrant youth in Israel. *Journal of Family Psychology, 23*, 405-415. doi: 10.1037/a0015811

Pew Research Center. (2015). *Languages spoken among U.S. immigrants, 2014*. Washington, DC: Pew Research Center.

Pinquart, M. (2015). Associations of parenting styles and dimensions with academic achievement in children and adolescents: A meta-analysis. *Educational Psychology Review*. doi: 10.1007/s10648-015-9338-y

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*, 185-227. doi: 10.1080/00273170701341316

Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement, 1*, 385-401. doi: 10.1177/014662167700100306

Ricciardelli, L. A. (1992). Bilingualism and cognitive development in relation to threshold theory. *Journal of Psycholinguistic Research, 21*, 301-316. doi: 10.1007/bf01067515

Roche, K. M., Lambert, S. F., Ghazarian, S. R., & Little, T. D. (2015). Adolescent language brokering in diverse contexts: Associations with parenting and parent–youth relationships in a new immigrant destination area. *Journal of Youth and Adolescence, 44*, 77-89. doi: 10.1007/s10964-014-0154-3

Ryan, C. (2013). *Language use in the United States: 2011 American Community Survey Reports*. Retrieved from https://www.census.gov/prod/2013pubs/acs-22.pdf.

Ryder, A. G., Alden, L. E., & Paulhus, D. L. (2000). Is acculturation unidimensional or bidimensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of Personality and Social Psychology, 79*, 49-65. doi: 10.1037/0022-3514.79.1.49

Schildkraut, D. J. (2001). Official-English and the States: Influences on declaring English the official language in the United States. *Political Research Quarterly, 54*, 445-457. doi: 10.2307/449166

Shen, Y., Kim, S. Y., Wang, Y., & Chao, R. K. (2014). Language brokering and adjustment among Chinese and Korean American adolescents: A moderated

mediation model of perceived maternal sacrifice, respect for the mother, and mother–child open communication. *Asian American Journal of Psychology, 5,* 86-95. doi: 10.1037/a0035203

Steinberg, L. (1999). *Adolescence* (5th ed.). New York, NY: McGraw-Hill.

Telzer, E. H., Tsai, K. M., Gonzales, N., & Fuligni, A. J. (2015). Mexican American adolescents' family obligation values and behaviors: Links to internalizing symptoms across time and context. *Developmental Psychology, 51,* 75-86. doi: 10.1037/a0038434

Tighe, L. A., Birditt, K. S., & Antonucci, T. C. (2016). Intergenerational ambivalence in adolescence and early adulthood: Implications for depressive symptoms over time. *Developmental Psychology*. doi: 10.1037/a0040146

Titzmann, P. (2012). Growing Up Too Soon? Parentification Among Immigrant and Native Adolescents in Germany. *Journal of Youth and Adolescence, 41,* 880-893. doi: 10.1007/s10964-011-9711-1

Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview press.

Tse, L. (1995). Language brokering among Latino adolescents: Prevalence, attitudes, and school performance. *Hispanic Journal of Behavioral Sciences, 17,* 180-193. doi: 10.1177/07399863950172003

Umaña-Taylor, A. J. (2003). Language brokering as a stressor for immigrant children and their families. In M. Coleman & L. Ganong (Eds.), *Points and counterpoints: Controversial relationship and family issues in the 21st century: An anthology* (pp. 157-159). Los Angeles, CA: Roxbury.

Vaid, J., López, B. G., & Martínez, F. E. (2015). Linking the figurative to the creative: Bilinguals' comprehension of metaphors, jokes, and remote associates. In R. R.

Heredia, A. B. Cieślicka, R. R. Heredia & A. B. Cieślicka (Eds.), *Bilingual figurative language processing.* (pp. 53-86). New York, NY, US: Cambridge University Press.

Wang, M.-T., & Kenny, S. (2014). Longitudinal links between fathers' and mothers' harsh verbal discipline and adolescents' conduct problems and depressive symptoms. *Child Development, 85*, 908-923. doi: 10.1111/cdev.12143

Weaver, S. R., & Kim, S. Y. (2008). A person-centered approach to studying the linkages among parent-child differences in cultural orientation, supportive parenting, and adolescent depressive symptoms in Chinese American families. *Journal of Youth and Adolescence, 37*, 36-49. doi: 10.1007/s10964-007-9221-3

Weisskirch, R. S. (2007). Feelings about language brokering and family relations among Mexican American early adolescents. *The Journal of Early Adolescence, 27*, 545-561. doi: 10.1177/0272431607302935

Weisskirch, R. S. (2013). Family Relationships, Self-esteem, and Self-efficacy Among Language Brokering Mexican American Emerging Adults. [Article]. *Journal of Child & Family Studies, 22*, 1147-1155. doi: 10.1007/s10826-012-9678-x

Weisskirch, R. S., & Alva, S. A. (2002). Language brokering and the acculturation of Latino children. *Hispanic Journal of Behavioral Sciences, 24*, 369-378. doi: 10.1177/0739986302024003007

Weisskirch, R. S., Kim, S. Y., Zamboanga, B. L., Schwartz, S. J., Bersamin, M., & Umaña-Taylor, A. J. (2011). Cultural influences for college student language brokers. *Cultural Diversity and Ethnic Minority Psychology, 17*, 43-51. doi: 10.1037/a0021665

Woolgar, M., & Murray, L. (2010). The representation of fathers by children of depressed mothers: Refining the meaning of parentification in high-risk samples. *Journal of Child Psychology and Psychiatry, 51*, 621-629. doi: 10.1111/j.1469-7610.2009.02132.x

Wu, N. H., & Kim, S. Y. (2009). Chinese American adolescents' perceptions of the language brokering experience as a sense of burden and sense of efficacy. *Journal of Youth and Adolescence, 38*, 703-718. doi: 10.1007/s10964-008-9379-3